The Builder.

SATURDAY, OCTOBER 1, 1853.

SMOKE is a more tangible opponent to fight against than some people think. "It will all end in smoke," is a common expression to describe something which is, after all, nothing. This is a great mistake. Smoke is not nothing: it is a something which the public find it very difficult to get rid of,—an obvious, avoidable evil,—one of our disgraces. According to the Parliamentary Reports, we are to have another year without any reduction of its extent and blackness; and it is too much to be feared that the enactment on the subject, even if passed next session, will be one of those trimming measures which serve but to put off the effort to a future day.

The innocent animals sketched from nature, and placed at the head of this article, are the one polluted, and the other astonished.

If, however, the country sheep wonders at the blackness of his neighbour, how much more must the sheep of experience be astonished (himself living in the neighbourhood of the court) to find by comparison with the coat of his new friend, fresh from verdant plains, the blackness of his own. Our sheep, perhaps, has a power of observation, and may consider if this amount of blackness attaches thus to the coat of wool, that his daily food (the peculiarly-coloured grass of the London parks) must not be altogether wholesome: he will also consider the nature of the air thus loaded with large and distinct flakes of soot, visible to the eye, and think of unwholesome matter swallowed into his lungs, and that to an extent which could only be fully understood by comparison with the country atmosphere, by the display of collected particles, or by means of the microscope.

If sheep cannot thus estimate the effects of London smoke, at all events, we can, and must view with horror delicate children and invalids, and indeed people of any sort, to the extent of two millions and a half and upwards, put in and obliged to breathe, not only the pestilent airs of bad drainage, and other matters to which we have often referred, but also the sooty atmosphere which the Hyde-park sheep illustrates.

The soot of the metropolitan chimneys is injurious in various ways.

It injures to a certain extent the health of every one. It tinges with its duskiness the palace and the hovel: it coats and spoils the works of great painters and sculptors: it disfigures the works of our architects; and it causes a large unnecessary expenditure in washing. Even the London sparrows show its effects; and then the softer sex, how they suffer from the effects of smoke. This should not be. In the olden time, the other "*dark* ages," it was part of chivalry to prevent the discomfort of women. We lords of the creation in this enlightened A.D. 1853, have now at our fingers' ends the means of putting an end to *smoke*, not only that smoke said to have been introduced by Sir Walter Raleigh (an introduction generally by the ladies abominated, and with good reason), but also that of sea-coal, and yet we let them suffer.

Have we no chivalry in this practical age? Cannot the knights of the present time manage to relieve the ladies of Britain from an evil greater than were the dragons and enchantments of the times past, and not half so annoying?

Let us for one moment consider a few of the numerous annoyances to all classes arising from the effects of "sea-coal" smoke.

We will refer to the Hyde-park sheep for the serious consequences likely to arise to the fair

A. *An inhabitant of Hyde-park.* B. *A stranger clean from the country.*

Yokel (*in alarm*).—"*Thou beest wondrous grim, sure!*"
Londoner.—"*To this complexion* ewe *must come at last.*"

countenances of the ladies themselves, *things well worthy of attention*. Moreover, even amongst the ladies of the highest schooling, the effects of London smoke cannot fail to be most trying to the temper, to say the least of it. Look lower, and we find the evil increased to an immense extent. The wife of the careful and persevering tradesman finds the clothes and goods of her family blacked and disfigured with soot. There are some startling statistics on record touching the effect of London smoke: we have ourselves contributed some calculations of touching import to all who pay washing-bills, and which show that the damage done to clothes and furniture by our smoke is immense,—enough to astonish any one who has not thought seriously on the subject, and also enough, considering how particularly this evil presses on the female portion of the community, from the highest to the lowest, to stir up amongst us the latent spirit of chivalry already alluded to. Down with the Smoke! That is, let us never allow it to go up.

Smoke, as we have often shown, can be avoided, and the appearance and atmosphere of London may be completely altered. Ascend the principal tower of the Crystal Palace, at Sydenham, in the middle of the day, and all London lies shrouded in a dense haze, although at four in the morning from the same spot you may see every church in the metropolis; the City churches ranging in long rows, St. Paul's, Primrose-hill, Highgate and Hampstead, the Queen's Palace, Westminster Abbey; in fact, all the materials which form this great abode of humanity are distinctly in view, as distinct almost as a scene in Italy or on the Rhine. London "*gets up*;" and then the gas-works, the brewers, the bakers, and various other manufacturers, as well as the good housewife, soon, by their united exertions, envelop London in a cloud which can be seen hanging over it for miles off, like a sable pall or a sad thought.

If any of our country readers not living in manufacturing towns, such as Manchester, Birmingham, Leeds, Newcastle-on-Tyne, and some other places, think that our illustration of the Hyde-park sheep is too highly coloured, let them, if they happen to visit London, remember the condition of clean shirts and gloves after a day's use in the country, and compare them with those used at their metropolitan visit: let them also look at their hands and face: wash as often as they choose, the water will be of such a distinct blackness that no mistake can possibly be made respecting the extent and properties of London smoke.

If, however, London is so grim, what is the condition of Manchester, Leeds, and the banks of "Coally Tyne?" The accompanying sketch of Manchester when they are getting the steam up will be recognised by all strangers who have visited that seat of industry. As to Newcastle-on-Tyne, it is infinitely worse: we remember meeting with a Londoner in the latter town who was almost speechless with astonishment at the numerous and immense volumes of smoke pouring out from all quarters—an effect only to be understood by actual observation.

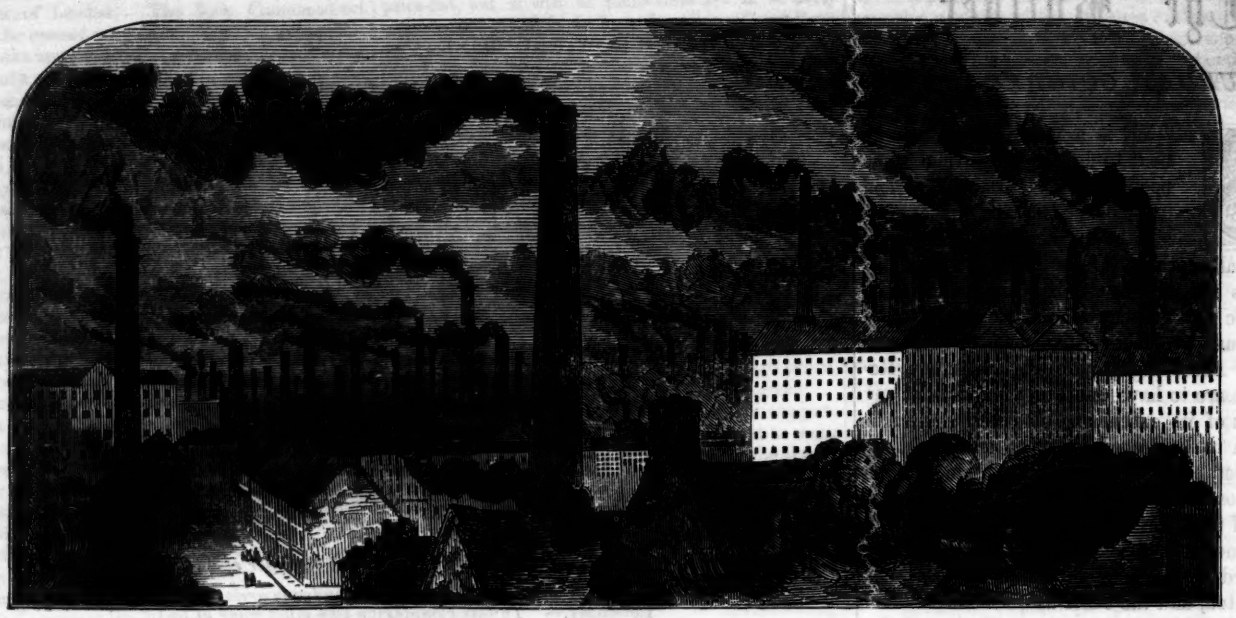
Hoping that this nuisance and *great waste* will be wisely and firmly dealt with, not only in London but elsewhere, and that the present condition of affairs will be soon looked upon as one of the curiosities of the past, it may not be uninteresting to glance at a few of the circumstances connected with the introduction and present extent of the trade in "*sea-coal*," as it was called in the olden time, from the circumstance of its being borne over the seas in ships.

On the gradual and necessary destruction of the forests surrounding ancient London, the necessity of fuel for the increasing population must have become strikingly evident. It is, however, shown in the old histories that the introduction of sea-coal, although absolutely needed, was not effected without much opposition.

In 1306 (reign of Edward I.) the brewers and dyers of London, and others whose professions require the use of great quantities of sea-coal, burning great quantities of that article, the air was so infected by the smoke arising therefrom, that the health of the inhabitants was thought to be in danger; whereupon, at the request of the nobility and gentry, the king issued a proclamation, strictly forbidding the use of sea-coal. But little regard being paid to this proclamation, a commission of oyer and terminer was appointed to punish the delinquents, who were fined for the first offence, and had their furnaces and kilns destroyed for the second.

From this time until the reign of Queen Elizabeth we find sea-coal gradually becoming recognised as one of the comforts and necessaries of life, and frequently mentioned amongst the accounts of pestilence, warfare, &c.

In the year 1544, Alleyn, the lord mayor of London and privy councillor to the king, when he died, gave a rich collar of gold to be worn by his successors, and 500 marks to be stock for *sea-coal*, and the rents of his lands he distributed to the poor of each ward for ever.



MANCHESTER, GETTING UP THE STEAM.

In 1590, the owners of the coal-works at Newcastle entered into a combination to enhance the price of that commodity in London from 4s. to 9s. the chaldron. And the Lord High Admiral of England, in the year following, claimed a right to the coal-metage in the port of London; but the mayor and citizens showing their prior right to the same, he receded from his pretensions. To prevent all controversies in that respect for the future, the citizens applied to the queen, who confirmed their rights.

In the third year of the reign of James I. this right was further confirmed as follows:—"And notwithstanding they, the mayor and commonalty and citizens, of late times thereof, have been disquieted, and in some measures aforesaid unjustly hindered, and especially in the said office of measuring coals—supposing that office to the mayor and commonalty and citizens anciently not to appertain and belong, whereas in truth it doth manifestly and plainly appear that the same offices and all other premises to them of old time appertaining, and do now of right appertain, and that they lawfully received and enjoyed, and ought to have, take, and enjoy the wages and rewards, fees and perquisites thereof—we therefore to take away all controversies, and remove all doubt in this behalf, and to the intent that the said mayor and commonalty and citizens may securely, freely, and quietly use, have, exercise, and enjoy, the offices aforesaid, and the fees, wages, rewards, and profits of, and measuring belonging," &c.

In 1614, the citizens were greatly distressed by "monopolizers, regrators, and forestallers in coals." The king, in another charter, after confirming the privileges already mentioned, says as follows:—"And further we do hereby, for us, our heirs, and successors, give, grant, and confirm to the said mayor and commonalty, and citizens of the said city, and their successors, that they for ever have and enjoy the office of weighing all coals called stone-coals, pit-coals, earth-coals, and all other coals, weighable, of what kind or sort soever, at the port of the said city of London, coming or brought upon the said water of Thames, in any ship, boat, barge, &c."

At this time the sea-coal from Newcastle and the northern counties had become indispensable in London, and supplied the city with firing, both for the dressing of food and for the operation of divers trades and manufactures. About 1590, as we have already observed, the price of sea-coal, by the arrangement of the parties in the north, advanced higher than it had been previously known; and besides (it is reported) the coals were not so good as formerly, in consequence of the merchants sending the best coals to foreign parts.

The increase in the price of coals from 4s. to 9s. the chaldron was caused by "a leasing of mines," and is explained by Strype, in his edition of "Stowe:"—

"The leases were called the grand lease, which grand lease was assigned to Mr. Sutton, and then the price came to 6s. the chaldron, and so continued during the time that Sutton enjoyed the lease. Then it was assigned over to the town of Newcastle, and then the price began to increase to an excessive rate,—first to 7s. then to 8s. and was now grown to 9s. Neither could be had, unless the buyer would be content to take of both sorts, viz. good and bad together.

Of this the Lord Maior made complaint to the Lord Treasurer Burley against the town of Newcastle, setting forth the causes of these abuses, and then the remedies for their reformation. The chief causes were certain inhabitants of Newcastle—called Freehosts—to whom the grand leases were first made over to the use of that town, being to the number of sixty persons, or thereabouts. Those of later times had compounded, and made over their whole right to a far less number, viz. some eighteen or twenty men, who having before coal-pits of their own, engrossed the whole commodity, and reduced the trade to a few men's hands, combining together to sell their sea-coal at their own prices, and so advanced the price, as we have said, to 9s. the chaldron, one with the other. The said few persons, being of great wealth, had, besides the grand lease, taken and engrossed all the coal-mines about the said town."

The remedies proposed to meet this evil were, that the lords of the Privy Council would take orders that all owners and farmers of coal-mines might open them and make such sale of their coals at such reasonable rates, not exceeding the price of 7s. the chaldron, to load the same at the most opportune places without restraint, and "that they be enjoined to have great store of coal digged beforehand, and ready to be laden, whereby the shipmasters might not be enforced to stay for their loading, as they had sometimes for five or six weeks together, by which the price of coals became increased."

The use of sea-coals is frequently alluded to by Shakspeare and contemporary authors, showing that sea-coal had become an important article of consumption, and it cannot be a matter of wonder that the town of Newcastle at an early period derived great benefit from the coal trade. Even in the time of Queen Elizabeth there were shipped into several places in the realm and beyond the seas by computation 500,000 or 600,000 chaldrons, the toll of which, at the rate of 4d. the chaldron, would amount to the sum of 10,000*l.* (say 60,000*l.* at the present day), which went to the chamber and corporation of that town, besides the revenue which grew to the inhabitants of that place by the sale of their coals.

Although in the later part of the reign of Queen Elizabeth the price of coals had been 9s. the chaldron, they were bought in the reign of Henry VIII. at 2s. 2d. the chaldron, "for one Thomas Barnaby, a merchant" (says Stowe), "exciting a great courtier in King Edward's time to promote shipping and increase the number of mariners, which would add so much to the strength of England, he showed how the sending of coals into France from Newcastle would set 6,000 or 7,000 mariners at work, whereas the French had the advantage. For in time of peace there would be from three to four score ships of Normans and Britons at once, as soon as the fishing was done, fetching coals, and as soon as they departed would come as many more. The advantage of that trade to the English would prove very considerable, for as he, the said Barnaby, had bought coal at 2s. 2d. the chaldron, so he sold them in France for 13 nobles, and this for the commodity of sea-coal."

In the year 1698 a tax of 5s. the chaldron was put by the Government on sea-coal: this gave such displeasure to the citizens that loud complaints were made and also pamphlets written against this tax, which was repealed the following year, and laid on again almost immediately after: one of the pamphlets alluded to shows that at this time 1,400 ships were occupied as colliers, as the author learns by the coast-books of the Custom-house in the port of Newcastle-on-Tyne.

It appears also from the amount of duty at 12d. a chaldron coast duty on coals at Newcastle, that there were then exported from that place 200,000 chaldrons of coals, Newcastle measure, and Newcastle had but two-thirds of the coal trade.

Without pursuing the inquiry further, let us add that the quantity of coal now yielded by our coal fields is called 32,000,000 tons annually, of which about 3,500,000 tons in the year are brought to London. It would not be difficult to estimate how much of this is wasted by our present unscientific mode of burning it, and is sent off, in the shape of very finely divided carbon, to contaminate the air, shorten the duration of daylight, and destroy property. That these evils may be avoided is certain, and it is much to be desired that manufacturers and others should not wait for legislative enactments, but should forthwith direct their attention to the subject, satisfied that although there may at first be practical difficulties in the way, these may all be overcome not only with immense advantage to the public, but pecuniary gain to themselves.

ON PHOTOGRAPHY AS A MEANS OR AN END.

PERFECTION AND IMPERFECTION OF SUN-PICTURES. NATURE AND ART CONTRASTED—THEIR REQUIREMENTS. THE CAMERA TO SCIENCE AND ART.

THE remarks contained in the following short paper have now been written some months—with a view to show the boundary-line between Nature and Art—to indicate an art-view of photography—taking as its text the burden of a prior desultory argument, mooted early in the Photographic Society, as to whether loyal photographers should maintain the absolute action of the sun's rays to produce the desired effect, inviolate, and so uphold the manipulative; or whether negatives or positives should be countenanced after they have been aided or touched by the artist; in other words, whether science and art should fraternise—the results or the means be paramount?

That the question is a wide one, and has many phases, I think the division of opinion on a former occasion will show; but until photography becomes a certainty, and Apollo condescends to paint all the minute hues and graduations of the original, the sun-picture will be far from even a perfect representation of nature. At present it can scarcely be said to supply the requirements of the naturalist or man of science—much less those of the artist: that their avocations may be greatly assisted by the perfection of the process, all, I think, will allow.

Nature and art differ widely, although they are often confounded, and, indeed, it is extremely difficult to define the boundary-line upon ground so debatable.

Nature is the handmaid of art, and art in its highest attribute a something beyond—a thing, as it were, distilled from nature—a something founded upon and bearing resemblance to it, being, to draw a familiar similitude, as ale to water: there is a great deal of water in ale, but something besides; so in fine art there is much nature, but a great deal more. Art seeks—at least, fine art (and it cannot be so called unless it refines)—to elevate the imagination, by lofty images derived from nature in its most agreeable form. Nature may be much conventionalized, and indeed is, in the noblest and highest art: the abstract is given without the minutiæ. In sun-pictures this is reversed; the particular is given without the general feature—breadth being sacrificed to detail.

In photography, the naturalist and man of science will seek for exact detail to argue from; for to them the smallest particular is of consequence; every feather, hair, or petal, must be rendered. The architect will require every cornice, boss, and moulding distinct; the engineer every link in his chain of evidence; whilst the artist will not descend to minutiæ, but desire a breadth of effect: he will be enraptured with what others might deem failures: *his* most perfect *pictures* may be out of focus, his distances may fade away, and his foregrounds look indistinct; his trees appear in masses, and his figures be obscured by positive shades. Photography ought to, and will, be rendered subservient to the requirements of the practitioner—to his individual wants: what will answer the purpose of one will not necessarily do so for another: one may delight in keeping his examples pure (and as chemical results they will have their value), another in assisting Nature, by knowing what she ought to be, and charming her to smile: both efforts will be worthy of praise if conscientiously done. The architect, for instance, requires botanical forms sculptured, as they could not, and do not, grow—in spiral lines, springing one out of the other, running round cornices and capitals, to the horror of the botanist—ignorant of the requirements of art—who would have plants sculptured after nature, in all its wild luxuriance, rather springing from the base than the top of a column; just as I have heard anatomists object to the sphynx, centaur, satyr, and mermaid, of the ancient artist, because they could not anatomically exist; forgetting that there is a great deal of true poetry in the physiologically false. Apollo, himself (the patron of photography), as represented by the Greeks, with his head in the centre of the sun, would be charred in the furnace were poetical license not allowed; and angels, with wings as well as arms affixed to their bladebones, cease to exist.

Photographic pictures, at present, are too literal to compete with works of art; containing both near and distant objects—of equal clearness—upon the same plane; backgrounds and foregrounds of equal intensity in the same picture,—things known to our painters not to be compatible with nature as viewed with the two eyes; not but that the peculiarity of the sun-picture (the cameras giving more than the eye can grasp) is a great advantage, at times, to the man of science and the artist, as they there find the material in its pure state,—to reject or select what suits their several purposes.

In the annexed diagrams, fig. 1 is an attempt to indicate objects as we often find them photographically rendered,—devoid of atmosphere, near and distant objects being of equal intensity. Fig. 2 is presumed to be as the spectator *would* see it when looking at the near object,—the background then being hazy, or out of focus. In fig. 3, the spectator's eye is supposed to have alighted on the background, rendering the near object subordinate.

FIG. 1.

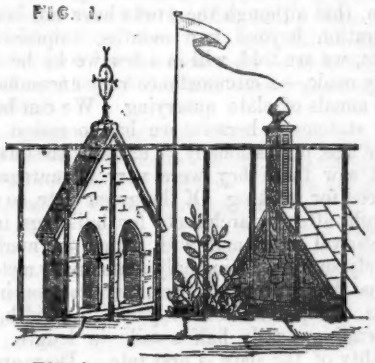


FIG. 2.

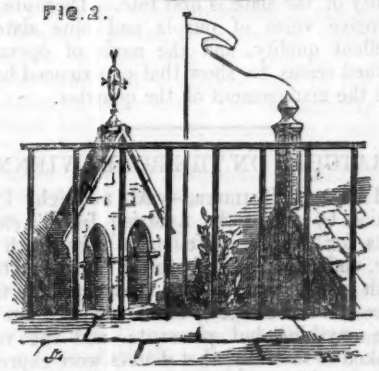
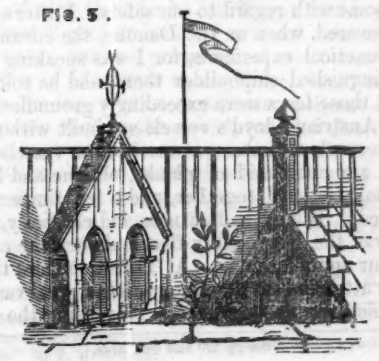


FIG. 3.



Artists are well aware that forward objects destroy those in the rear: in sketching they make lines fall short of those prominent: this may be observed in Nature by suspending a ball, which when viewed by itself annihilates the background.

In some paintings by the great masters the principal figures appear to have glory round the heads from an exaggeration of this effect.

The naked truth—even did the lens imprint it upon the paper—would require clothing at the hands of the artist to become a work of art: to make a fine picture, he must elevate this and depress that; bring this forward and take that backward; lighten here and darken there; carrying out the proposition of one of our greatest painters,—to paint a picture—*honestly* if you can—but paint a picture. Good works of art are creations in which the artist is more or less apparent: an experienced connoisseur will detect the hand at once, even if it be in fifty different representations of the same object; whilst the like number of photographs, from the same point of view, would vary little. Nature must be taken as we find her, "unadorned;" and, as the poet would have it, "adorned the most:" not that we are obliged to believe the poet, though we may admire him, any more than we are to acknowledge, because Shakspeare tells us, that the toad has a jewel in its head, that it is a literal fact.

Turner is said to have lighted some of his marvellous creations with two suns, and to have contended for the use of three if it answered his purpose: however, as we are not all Turners—capable of turning Nature topsy-turvy,—we may as well be more literal, and remember the adage,—that though some may steal the steed, others may not even touch the latch of the stable-door.

Minute detail, as indicated before, to the smallest particular, is the attribute (and an invaluable one) in the sun-picture, though not so of the work of art, in which you cannot remove a particle without destroying the whole; a rule that holds good in the finest sun-pictures, though many photographs may, and often with advantage can, be divided and subdivided without detriment, and every part be beautiful—for they want unity—which every work of art ought to possess. A picture must have all the attributes of nature without its particularities, being nature in the abstract; and to show you how much art may exist without nature, I will draw your attention to the marvellous works of Flaxman and Retsch in outline, things that have no bodily likeness in nature, so arbitrary, and yet so satisfactory, being no more pictures than maps or plans are pictures; and yet, with all, works of art in the most æsthetic sense,—a few lines indicating a lofty idea may convey the noblest sentiment and highest art, whilst a pleasing effect may be pictorial without elevating—it being pictorial effect that constitutes the picture, refinement the work of art.

An outline drawing, as I said before, is no more like nature than a bit of bent wire might be made, but it conveys an idea to the educated eye, and answers the purpose intended. Photography cannot produce the ideal, although it may aid it. It could not have invented the anthemion, or Grecian honeysuckle, a form that has endured three thousand years; or the Mediæval *fleur-de-lis;* because the abstract is beyond the mechanical: we might as well expect the calculating-machine to write poetry as the camera to supersede the arts, even if we get so far as to realise the hoax advertisement of Sir George Beaumont half a century ago, and *are* enabled to bake likenesses in a looking-glass.

Art cannot rival Nature, and should not attempt to compete with her: its province is quite distinct. The marvellous detail of the microscopic photographs defy the imitation of man, and I hope will, ere long, supersede his endeavours to mimic her wondrous minutiæ, for he can never approach it.

In the lowest forms of art we find direct imitation the object, a painful elaboration of parts most sought after, and the first to be appreciated by the thoughtless observer; as the representation of a satin or velvet robe, the glitter of armour, the hair upon animals, &c.; whilst lofty sentiments, requiring mind to appreciate, attract the least. The true artist will

represent fur as a broad mass, giving all its attributes without any of the particulars: the mean artist will labour in vain to depict every hair: the former will be a Landseer, the latter a painter worthy of copying the lower walks of still life, as three mackerel on a "willow" plate, a section of bacon, or a summer cabbage, to meet the demand of pawnbrokers in vulgar localities.

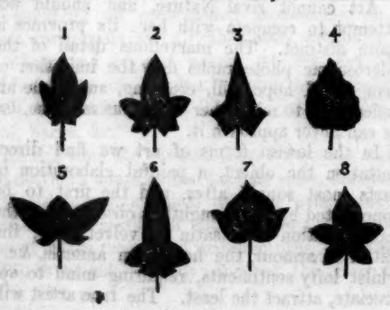
Genius will be assisted, rather than superseded, by photography: he will go to the process as to nature—to choose and render in unity his own: he will look to it as the alpha rather than the omega of his art.

Action in sun-pictures is almost invariably imperfect, the camera delineating figures in repose with greater success. Action is the essence of fine art; the richest works being replete with life, which is not observable in the works of the process: for instance, suppose you take a sun-picture of a man about to strike a blow—cutting with a sword or wielding a club—it is a hundred to one if he appears to be in anything but an attitude, whilst in the hands of a skilful limner nature would have been assisted by art, and slightly exaggerated (if we may so call it), the spring of muscle being carried to the utmost extent, so as to look as if it would strike home: this is not to be done with the camera, but easily with the pencil (the model being unable to put himself in the position except under the impulse of a moment): this the artist knows, and attempts to express.

Photographic and daguerreotype portraits are often wanting in vivacity, individuality, and beauty, bearing but little resemblance to the sitter, who recoils from the libel upon his personal appearance, none the more satisfied on being informed of the infallibility of Nature, who *never* flatters; but, I would ask, does Nature do justice? Is beauty of complexion or expression rendered in the present state of the process? I think not; much doubting if ever sitters can give that power of individuality they possess—that trait of feature the true artist aims to seize, rendering portraits of the most ordinary pleasing and life-like, appearing to live and glow again in art, because the painter has sought to condense the attributes of his sitter—a thing the mirror could not even accomplish.

The same, again, holds good in the representation of specimens designed to show the type of a class, whether botanical, zoological, or other: the camera, being unable to give the type of a class, can but portray the individual; hence the skill of the operator in selecting the best he can command. The native of one province may resemble that of another; he must pick the best, for he is unable like the artist to give the attributes of a whole tribe; he must remember that the arm or hand of a powerful woman may look more masculine than the same members in an effeminate man; that elms may resemble oaks, and dahlias look like roses or cabbages under untoward circumstances.

In allusion to the forms of Nature, and the necessity of artistic treatment, I will produce one example, the ivy, to show how varied and infinitely beautiful are her forms, even upon the same plant, affording the designer the choice of selection—enabling him, without copying any, to portray the attributes of all, unmistakeable to the casual observer. Perhaps Nos. 3 and 8 are the most agreeable in form; No. 4 would have to be avoided, for although common, and as much an ivy leaf as the others, it has the misfortune to be the same in shape as many more: we have in Nature the colour and texture, but, deprived of that, its identity might be lost and the leaf taken for a lime leaf, or what not.



That sun-pictures may be the means of elevating taste by rendering us more familiar with Nature's infinite beauty, and educate the eye by presenting her transient forms and effects in all their varieties, imprinted by her own hand, without fear or favour, causing true art to be better appreciated and more widely understood, exploding its fallacies and consolidating its facts, showing, as it has, the points in which art and science differ; that though works of art may, and often do stand higher than works of circumstance in intention, the former can scarcely hope to compete with the latter in one essential particular, true roundness, linear perspective appearing comparatively flat as contrasted with binocular perspective, as exemplified in the stereoscope. JOHN LEIGHTON.

THE CARNARVONSHIRE SLATE QUARRIES.

THE demand for slate of certain qualities, which has for many years been gradually increasing, has at the present time become so great that the existing quarries are wholly unable to furnish the supply required. This may be attributed not only to the vast increase in building in the metropolis, its suburbs, and throughout the United Kingdom, but likewise to the appropriation of slate of late years for ornamental and sanitary purposes, together with the continued and increasing demand for exportation, more particularly to America and our own colonies. Some contractors, we hear, are deterred from extending their operations in consequence of inability to obtain the execution of their orders within a reasonable period. Nor has the maximum of demand been yet reached. Unless we are mistaken, slate will be used for many other purposes than those to which it is now applied. Many of our readers being interested in obtaining a good supply of this material, we may mention that the "Carnarvonshire Slate Company" (whose advertisement recently appeared in our columns) are vigorously working their grant of land containing extensive strata of green, purple, and blue slate rock; and such is the favourable position of the vein, that although the works have not been in operation beyond two months, shipments of slate, we are told, will in a few weeks be regularly made,—a circumstance very uncommon in the annals of slate quarrying. We can believe the statement, because we had occasion some time ago, professionally, to examine the quarries, and saw that they were very advantageously placed for working. Of the green slate, so much sought after by architects for buildings in the Mediæval style, and with which the market is barely supplied, being only occasionally met with in patches in other quarries, there is a continuous vein, computed at 100 yards in width, and extending nearly half a mile in length. The quality of the slate is first rate. There are also extensive veins of purple and blue slate of excellent quality, and the mode of operation pursued seems to show that experienced hands have the management of the quarries.

SCRATCHES ON THE ROAD: VIENNA.*

MY DEAR BUILDER,—At midnight I left Venice by one of the Austrian Lloyd's steamboats for Trieste. We had a very rough passage, and experienced both the burra—a strong north wind, that is very destructive in those parts—and a sirocco, which rendered our passage anything but pleasant; and the vessel creaked so fearfully, that doubts were expressed by some with regard to our safety. I afterwards discovered, when on the Danube, the advantage of practical experience, for I was speaking to a distinguished shipbuilder there, and he told me that those fears were exceedingly groundless, as the Austrian Lloyd's vessels are built without a framework of timbers, as most of our vessels are, but are composed of planks, oblique and horizontal, fastened together, and a few timbers inserted. This gives lightness and elasticity, and it was the last quality that had been the cause of our apprehensions. At Trieste the first thing that attracted my attention was the great variety of picturesque costumes. This being the only port of South Germany, it is a busy, bustling place, and people of all nations come to trade—Turks, Greeks, Armenians, all the varieties of the people along the Adriatic; but the most remarkable are the *Slavs*, especially the women, who wear a petticoat of some dark colour bound with bright red or orange, the same or a green bodice with white sleeves, and a white cap with a white pendant at the back, containing some yards. The men wear dark trousers, very broad to the knee, jackets, and a cap made of fur elevated at the back, presenting a very strange appearance. I went to the Greek church, where I saw some hundreds of these, the women arranged on the north side and the men on the south. I also saw at the village of Sessina a *fête*, where every one was clothed in this national Slavonic garb, and the effect was very peculiar. Nowhere have I met with national costume so exactly preserved. Everywhere else, even in Switzerland, the influence of cities, aided by the cheapness of Manchester, have tended to destroy all these characteristics. The duomo or cathedral of Trieste possesses interest, as being built on what was formerly the Temple of Jupiter. Under the tower an excavation has been made, and the plinths and portions of some Corinthian columns are exposed and left for view, protected by a railing.

From Trieste I went by the ordinary road to Laibach, where the railway commences. The carriages are exceedingly inconvenient, and hearing of this, I took a first-class ticket, although people say that second class is always so good on the continent; but the only way to get at this compartment was through the second-class carriage, where the smoking had produced such a fog that it was difficult to find the way, for the Austrians, who have no hesitation in polluting every place they enter by their everlasting smoking, have the greatest possible antipathy to the slightest breath of fresh air; and when I arrived at the place allotted to me, I found a den, containing seats for eight, so "cabined, cribbed, confined," that I thought it would be worth Mr. Macgregor's while to take a trip here, for him to see how much more space might be taken from the crowded carriages on his very expensive and uncomfortable road. I noticed on the way that the churches by the road possess none of the Lombardic style, but are in the character of most of the Swiss churches, that is, the tower is surmounted by a top in the form of what is in England called a Turk's cap. Is this form only peculiar to the churches of mountainous districts, or is it a portion of an oriental type that has been carried westward into Switzerland with the Austrian rule? The railway is only made as far as Mürzzuschlag, where the Semmering Pass commences: it is still in progress, and, when complete, of which there are some grave doubts, it will be a great monument of engineering skill. As the height of the Pass is about 3,300 feet above the level of the sea, and Mürzzuschlag about 2,200, while Gloggnitz, the place on the other side of the Pass which it is to join, is about 1,380, some idea may be formed of the work in the shape of inclines and tunnels necessary for this junction. This was the next day but one before the Nativity of the Virgin Mary, and we were met by hundreds of pilgrims, who were proceeding to some shrine to offer up their prayers on that day. Their chanting had a very solemn effect, but their dirt and poverty inclined one to pity, and inquire whether their duty might not have been as well done by the performances at home of such acts as would raise them in the scale of social beings.

I will not delay any more on the road, but arrive at Vienna at once. My first visit was paid to the Church of the Augustines, to see Canova's monument of the Archduchess Christina. It is exquisitely beautiful: it has been frequently described, but no description can give the impression that it produces. There is a pyramid, in the centre of which is a door representing a vault, into which are seen entering a figure representing Virtue, attended by children; then follow Benevolence, supporting an old man, and by his side a child. The figure of the old man is fine: in him you not only see the tottering limbs, but also the palsied mind, unconscious of the loss he has sustained, but still clutching the empty purse with convulsive force. How strange it is that when every other

* See pp. 370 and 502, *ante*.

faculty of the mind fails, there is still always some portion of intelligence left to invoke you to *give;* and I have often, when looking at an old and worn-out being, who has mumbled "charity," the only word perhaps left, marvelled whether this is only a remnant of that instinct which makes us cling to existence with such dread tenacity. Beside the old man is a child kneeling, and I never saw anything more exquisite than the force of this contrast. In its sweet face there is that grief, the "so sorry" of the child, which happily is so evanescent in infancy, and which is so easily changed to a smile upon the slightest provocation. Beyond this, the countenance of Benevolence indicates that sorrow which tears do not show, but which speaks a void near the heart not easily supplied. Altogether, this had more influence over me than any monument I have ever contemplated; and I can well understand, and fully endorse the indignation expressed by the writer in Murray for the vile taste exhibited at Venice in raising what is at best but a burlesque imitation of this beautiful composition, as the monument of the sculptor. Surely the worth of genius was never so tastelessly requited.

My next visit was to the cathedral of St. Stephen's, where my first feeling was of the wonderful fidelity with which Mr. Roberts has rendered this magnificent structure in those two pictures exhibited by him at the Academy in the present and past year. The exterior is as imposing as the interior, but marred very much by the coloured tiles of the roof, of which I spoke in dislike at Basle. Here the effect is much worse, as on the roof on the south side is a gigantic representation of the Austrian eagle, that, whatever may be its influence in other respects, does not, in my humble opinion, conduce to the harmony or elevation of Gothic architecture. From the tower, which I ascended, a fine but not uninterrupted view of the city is obtained, as there is no opening except from the four quarters, from which the fireman watches the city, without intervening pinnacles and tracery. On the south is a miserable hovel, built up against the side of the church. I have always found that in Roman Catholic countries, their best buildings are always desecrated with some wretched additions of this sort. And it would be well for "Young Oxford" to consider whether it is necessary, in consequence of an appreciation of Gothic beauty, that the Protestant church should approximate to Rome in the performance of its ritual, and the garb of the clergy; seeing that where Protestanism has not had the slightest influence, destructions, alterations, degradations, and even whitewashings have been as prevalent as where an inexperienced and tasteless churchwarden has inspired the pious horror of an ecclesiologist.

At the Museum of Antiquities I was most charmed with the cameos and intaglios: among the former is that famous one, the Apotheosis of Augustus. Its delicacy is exquisite. Several attempts have been made to copy it by the photographic and galvanoplastic process, but those I have seen fail to give a shadow of its beauty: the last process is done with copper, and then carefully painted to imitate the original—an imitation indeed! There is also another collection of antiquities at the Ambras collection, where there is a very fine display of armour, among which is that of Alexander Farnese, Duke of Parma, which, from the elegance of the workmanship of the gilt *bassi-relievi*, fully deserves the encomiums that have been passed upon it. Here also are some curiosities in the way of gems of precious stones, among which is a very curious conglomerate, formed of silver, very large emeralds and diamonds, which is labelled as coming from Peru; but my companion told me, from his knowledge acquired by a long residence in the country, that no emeralds have been found in Peru: they are obtained in New Grenada, but never in the former place.

I went to Schönbrun, which is the Versailles of Vienna, and a modest imitation of it. It is the favourite residence of the present emperor. The interior is not shown, but the public are allowed freely to walk about the grounds, which consist of radiating walks with the trees and hedges clipped into the most rigid angularity: at the end of the centre walk is a fountain, allegorical of Neptune, of course. What would the designers of fountains have done without that old gentleman? We shall see, perhaps, at the New Crystal Palace. On the hill beyond is the Glorietta, a triumphal arch, the effect of which is very good as seen from the palace, and upon which a very fine view is obtained of Vienna and the surrounding country. From thence we went to Laxenburg, which was the favourite place of Maria Theresa, and contains "a great sham" in the shape of a Gothic castle, which she erected and made her hobby in furnishing, and we may therefore infer from it what was her taste. What, then, shall we say of that which dictated a copy of "the Chamber of Torture, said to be a *fac simile* of the Justice Chamber actually existing in an old castle somewhere in the Italian Tyrol? In the centre is a circular table, inscribed along its edge with the words '*Discite justiciam moniti, et non temnare divos,*' around which the judges or inquisitors sat. Above the table is a pulley fastened in the foof, to which the prisoner was attached by the arms or legs, and racked, to extort confession."* Below, in the dungeon, is an effigy of a prisoner chained to the wall; and when you enter, the guide slyly remains behind, and by means of some mechanism causes the prisoner to lift up his hands and rattle his chains. Alas! that a woman should have made a model of this wretched mockery on the name of justice! I do not know what estimate Mr. Newman gives in his book† of the character of Maria Theresa; but I think that it shows a taste which is exhibited by her descendant, and which I heard illustrated in connection with the deposition of Haynau. Twenty-six political prisoners were tried after the revolution, and there not being so much suspicion against these as the numerous others that he had sent to their account, he acquitted them, when in less than twenty-four hours he ceased to be governor of Hungary. He has been heard to say "that he hanged and shot thousands without a remark; but because he allowed twenty-six to escape he was superseded." It will be recollected the reception he met with in England; but here he was so shunned, that when he was seen coming on one side of the way, everybody crossed to the other rather than meet him. In cutting throats he only did his duty: for being just he was removed;—and in this do we not see that spirit which copied the Torture Chamber?

The greatest portion of my time has been devoted to the Belvedere Gallery, containing the imperial collection of pictures. There are some fine samples of every school, preserved in the best possible manner. I was curious to observe the way in which the pictures were regarded by the visitors, to see whether "high art" was more appreciated here than with us; and I must acknowledge that those pictures which attracted most attention from the many, were of that class which would be most interesting to our public. The English visitors, of course, go directly to those that are indicated by "Murray." Here and there you find a student rapt in the contemplation of some work; but the majority will be found looking with most intense wonder at the "Jew looking out of Window" (No. 9, in the eighth room), by Hoogstraeten; and on the old man and the old woman (Nos. 103 and 104, in the twelfth room), by Denner; while the "Ecce Homo" of Titian, "Le Repos en Egypte," "La Madone à la Verdure" of Raffaelle, "The Ignatius," and "The Francis Xavier," are but slightly regarded. Whether this arises from the numberless illustrations of these subjects that their places of worship contain, causing them to be indifferent to the productions of greater hands, I will not take upon me to say; but as appreciation of art is as much a matter of edueation as anything else, I hope to see the time when our galleries shall not only be thrown open to the public, but find also that public instructed in the principles which the exhibition alone of pictures will fail to give.

As Pesth has occupied an important part in the history of our time, I thought I would c'en visit it; of this, however, hereafter.

F. S. A.

* "Murray's Handbook."

† "The Crimes of the House of Hapsburg against its own Liege Subjects." By F. W. Newman.

THE CELLARS IN THE CITY.

WHILE the cholera is so fearfully raging near us, and threatens to attack the great city, will you allow me to draw your attention to the state of the cellars of our principal thoroughfares and important streets by the detail of the following facts? It being near the quarter-day, I, with many others, am employed in inspecting the gas-meters in the city and suburbs of London, and consequently am obliged (consumers placing that important machine in the worst part of their premises) to traverse upwards of 1,500 cellars; and I assure you I find very few (not 150) but what are turned into gigantic dust-holes, which I am obliged to go over and inhale their fearful stench. The accumulation of dust and dirt mingled with the refuse of the scullery, forms a complete mass of fetid matter: in many cases, a drain runs under the heap, adding to the danger, with a water-closet in the corner, in a wretched state of repair. These cellars, it must be told, are not available for commercial purposes, for two reasons—first, because they are dark; or, secondly, because they are too damp: the latter cause is most usual; and I will leave you to judge what the stench must be from the rapid decomposition of vegetable matter accumulating quarter after quarter in this diabolical state. Surely, sir, some means should be adopted to compel people to keep their underground apartments free from pollution in this heated city, where it appears death and destruction are invited instead of being repelled. It may be urged there are the dust-carts to remedy it, but I would ask—first, are they called in to remove the nuisance *in time;* and secondly, will the men take it away when asked? I have seen it frequently refused, and then it got too great a bulk even for four or five carts to load away the mass. It is seldom any but we, and others in like capacity, enter these underground dust-holes; those who do, will say I have not exaggerated. I trust this hint set forth by you may lead to an investigation of the cellars of the City. AN INSPECTOR OF GAS.

SURVEYORS, BOARDS OF HEALTH, AND COMMITTEES.

THE professional offices of the country seem to be passing piecemeal into the hands of committees. Building committees are becoming the practical architects; street committees are becoming the practical surveyors, and so on. Where it will all end it is not easy to see. A specimen of its working has just occurred at Windsor, where the surveyor to the Board of Health has been dismissed, without "casting any imputation on either his professional or his personal character," and merely, it would appear, because he was not a passive enough tool wherewith "the street committee" could "make out" the "surveyor's reports" to the board. Being rather a stiff steel pen, he was cast aside, and the street committee are now on the look out for a more pliable quill. Moreover, the surveyor had the boldness—the indiscreet and self-sacrificing boldness, we must say—to attempt to "report" the very chairman of the street committee himself, in one of these their own reports, as having erected a gate across a street said to be watered, lighted, and sewered at the public expense, but nevertheless still claimed as private property; and had also refused to sanction the conversion of 9*l.* into 12*l.* as amount of rent payable by the board to another of his masters of the street committee, who, by the way, are alleged to be *inter se* at sixes and sevens, or at least at twos and threes. Mr. Rawlinson was probably right in hinting that it appeared to be "a foreman" to some competent engineer that they were in want of rather than a competent surveyor. As yet, however, the local board has no such engineer. As regards competent surveyors, we observe the occurrence of another little circumstance, which seems to show that the nature and the status of their profession are not rightly understood. At Dorchester the local board lately advertised for "a surveyor, inspector of nuisances, and collector of rates," salary in all 100*l.* per annum. No competent surveyor applied,—in fact, no one even under pretence of being able to act as a surveyor at all, unless, indeed, it was the person actually appointed, and who, according

to the very member of the board proposing him, "might possibly be found to fill the office of surveyor as well as any other person,"—inasmuch as he had been all his lifetime a linen-draper, and was doubtless well accustomed to *measurement!* Moreover, in the bye-laws of the board, who, according to the *Dorchester Guardian*—and we do not doubt it—have "some confusion of ideas as to the duties of the surveyor,"—it is required, that that officer, if called on to do so, shall occasionally undertake the more technical duties of engineer; so that, by parity of reasoning, the linendraper, accustomed to the "ell-wand," should at least have also been a boniface acquainted with the beer-*engine* and accustomed to *drawing!* Really, little justice is being done to the Health Act if this be the extent of the general knowledge of local boards as to the functions and duties of their most necessary and important officers. Why do not the General Board write them a circular lecture on the subject, and send it all round, so that no one local board could take anything like special offence at such an endeavour to enlighten them.

DUTIES OF DISTRICT SURVEYORS, AND POWERS OF THE ACT.

You and your readers have no doubt seen the correspondence which has lately appeared in the *Times*, between a barrister and a district surveyor, relative, amongst other things, to the duties of the district surveyor under the Metropolitan Buildings Act, in cases of underpinning party-walls; and I think it will be admitted that, whilst the remarks of "Barrister" are calculated to do good, "our learned friend," or perhaps we should more properly say, "the learned gentleman" has not taken much by his motion. This "turn-up" between a barrister and a district surveyor has led me to look into the statute, and, having so done, I incline to the opinion,—if, being "unlearned, I may be allowed to have an opinion,—that it is doubtful whether the shoring-up and underpinning referred to in section 28 are not matters which, so far as that section is concerned, concern the building owner and adjoining owner only. This section, it will be observed, makes it "lawful" for the building owner to excavate against a party-wall, but upon the "condition" that he shores up and underpins the party-wall; and so, in like manner, section 26 makes it "lawful" for the building owner to rebuild a sound party-wall, but upon "condition" *again* that he reinstates the adjoining owner's house, and pays all fees, compensation, &c. Now it appears to me, Sir, that if section 28 makes the shoring-up, &c. a matter which the district surveyor can require, under section 14, to be done in the particular manner described in that section, so in like manner the district surveyor is bound, in case the building owner fail, under section 26, to reinstate the adjoining owner's house, or to pay the fees incurred or the compensation awarded, to proceed against him under the aforesaid section 14. This latter I think can hardly be the case, and if I am right, it may at first sight seem that many dangerous operations may be performed to the injury of the public; but this is not exactly so, as the adjoining owner has an appeal, under section 82, to the official referees, and moreover the public safety may in a brief space of time (say a day or two), be secured under section 40; besides which, the underpinning being an *enlargement* or *alteration*, is subject to parts 2 or 3 of schedule C, and therefore clearly under the supervision of the district surveyor. I cannot, however, help doubting whether the shoring and underpinning referred to in section 28, is a "rule" or "direction" of the Act, or, indeed, anything more than a *condition* to be taken notice of only by the building owner. The barrister, I observed, referred the district surveyor to the schoolmaster; and I presume that, as it is not now vacation-time with schoolmasters, the district surveyor found that worthy gentleman at home, and was by him advised that, as he read the Act, party-walls must be "shored up" with brickwork, &c. I think, however, that it is not very material to the public whether barristers or surveyors have been to school at all, as they will doubtless find employment in proportion to their competence; but it seems to be very important that the Legislature should have been to school, and not entirely forgotten what they were there taught. This remark leads me to suggest that the afore-mentioned section 28 is not so decidedly clear as it should have been, for while it is evidently meant to refer only to the case of building an *external wall* against a *party-wall*, some parts of it lead to the supposition that if an excavation be made for *any* purpose, the necessity for shoring, &c. occurs. I think, and I believe I shall be borne out in the suggestion, that there should have been an express "rule" in the *schedules* of the Act regulating the shoring and underpinning of party-walls,—indeed, of all walls,—in cases in which excavations are made against the same. It seems to me to be an unwise, if not a bad plan, to have rules scheduled in a given part of an Act, and at the same time other important rules bearing on similar subject, omitted in the schedules, but lying interspersed in the various sections of the Act.

Having said thus much, Mr. Editor, allow me to ask when you think it is probable the Metropolitan Buildings Act (an Act which, after all, is undeservedly abused by parties who cannot, or do not take the trouble to understand it) is to be amended? Having asked this question, I will retire, with the assurance that I am your ancient friend and humble servant,

A Quiet Observer.

PROVINCIAL NEWS.

Grantham.—The site for the erection of the baths and washhouses is now opened out, and the contracts have been let to Mr. Young, of Lincoln, who will perform the whole of the work. The erection of the wash-houses will be deferred for a while, with the view of ascertaining the wants of the town in regard to them, and further information as to their paying. The principal portion of the front is of stone from Wilson's Ancaster quarries. Mr. Oliver, jun. of Sunderland, is the architect.

Middleton (*Sudbury*).—The interior of the church here has been removed, benches taking the place of pews: a carved pulpit has been erected, which, together with the stalls, benches, and general work, has been executed by Mr. Elliston, builder, under the direction of the architect, Mr. A. Salvin, jun. An east window of stained glass, designed and executed by Ward, has been presented by Mr. Skinner. Encaustic tiles were furnished by Mr. Minton.

Lakenham.—On Tuesday week the opening of the new Infant School, established in connexion with the district church of St. Mark, was celebrated by divine service in the church, and a social tea meeting. The school-room for 100 very young children has been erected close to the other schools, near the church; so that altogether about 300 young persons of both sexes are now receiving instruction here on the National system.

Bedford.—The parish church of St. Mary having long had insufficient accommodation, it was determined to add a new south aisle, throw the south transept into the church, remove the gallery, build a new vestry, a north entrance porch, provide 150 additional sittings, and accommodate children of the Sunday-school; also to light the church with gas. Under the superintendence of a committee the works have been carried out. Mr. Jackson, of Bedford, drew the plans and gave his services gratis. The contract was taken by Mr. Miller; and the alterations, which were commenced on Whit Monday, have been completed within the time and within the estimate.

Windsor.—The Commissioners of Public Works have given direction for the extension of the water mains to every part of the Castle, and the operations have recently been commenced under the superintendence of Mr. Turnbull, the resident clerk of the works. The original expense of carrying the pipes to Cranbourne was 10,000*l.*: the expense of their present extension is estimated at 4,000*l.* which sum has been voted by Parliament.——The directors of the Windsor Royal Society (of which Prince Albert is president) have opened a lodging-house for unmarried workmen and labourers. The model lodging-house formed a part of the original scheme of the society, but the difficulties experienced in procuring suitable premises, and adapting them to the purpose, have delayed until now the carrying out of the intention. The directors leased a large house in Church-street, the residence formerly of noble families attached to the Court, but latterly in the last stage of dilapidation. This house they thoroughly repaired, drained, and ventilated, provided with every convenience, and fitted up with sleeping accommodation for fifty single men. The lodgers are to be admitted at the rate of 2s. per week, in advance.

Oxford.—The baths and washhouses have now been opened twenty-six weeks, and during that time there have been 8,552 bathers—1,560 females. 2,133 women have washed linen and clothes, occupying 4,648 hours, averaging two hours and a quarter each. Thus, for 3d. the clothes of a whole family are washed, dried, and ironed.

Tiverton.—At Park Villa, Tiverton, a house lately undergoing extensive repairs, suddenly gave way, and the whole of the north wing of the building fell to the ground. Fortunately, the day was wet, and the workmen employed had been prevented from proceeding with their work in consequence. The accident is said to have been occasioned by the building having been undermined, and the parties having neglected to shore it up properly.

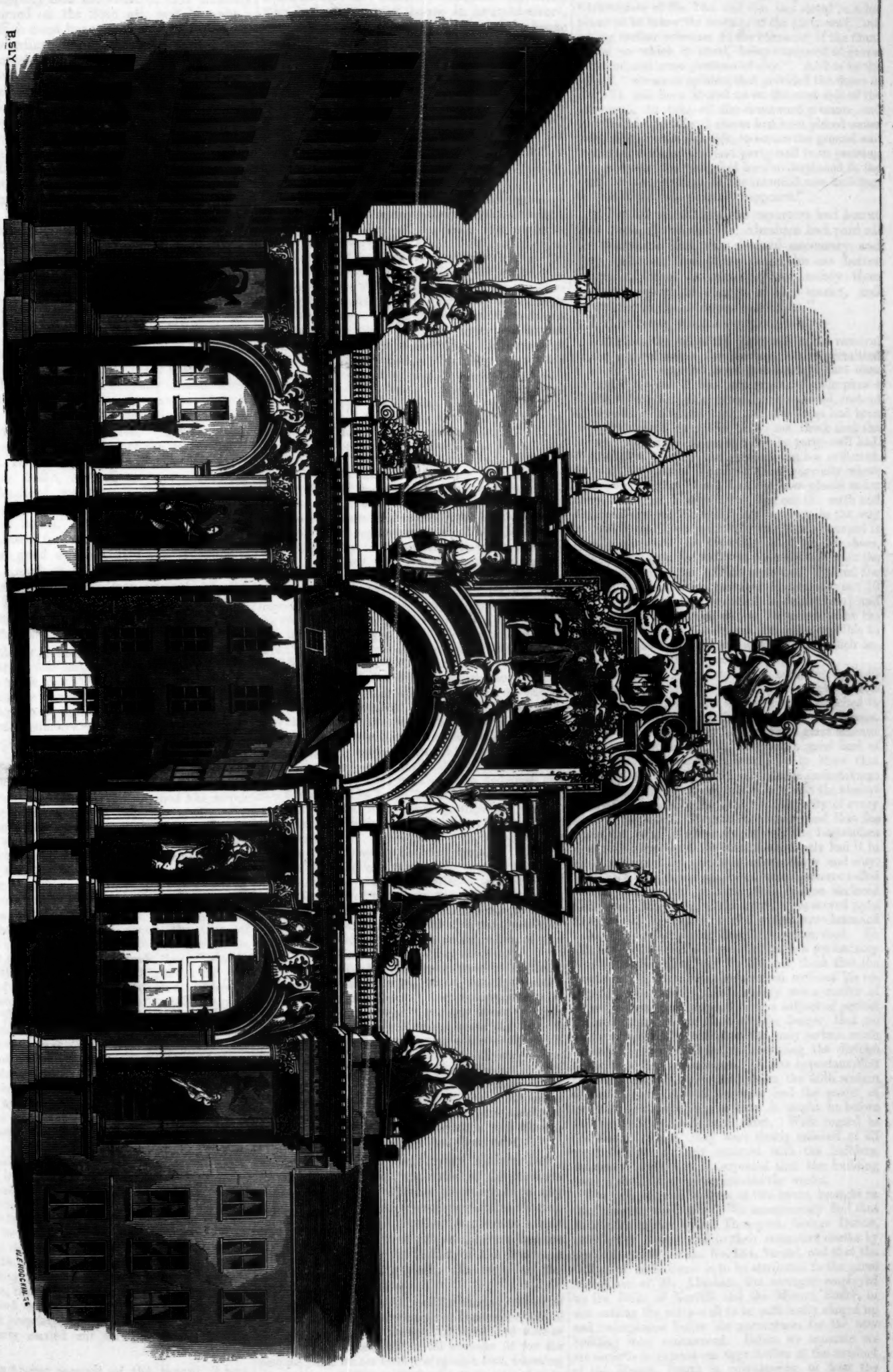
Pennar (*Milford Haven*).—The contractors for the construction of the South Wales branch railway to Pembroke, and the proposed docks at Pennar, are Messrs. Wythes and Treadwell, who have undertaken to have these important works finished by December, 1855. It is understood they will be proceeded with without delay; and the total cost is estimated at 500,000*l.* The whole capital will be advanced by the contractors, who have agreed to take shares of the company for the amount. The company will advance the sum of 35,000*l.* for the required land. The proposed extension is six miles.

TRIUMPHAL ARCH, ANTWERP.

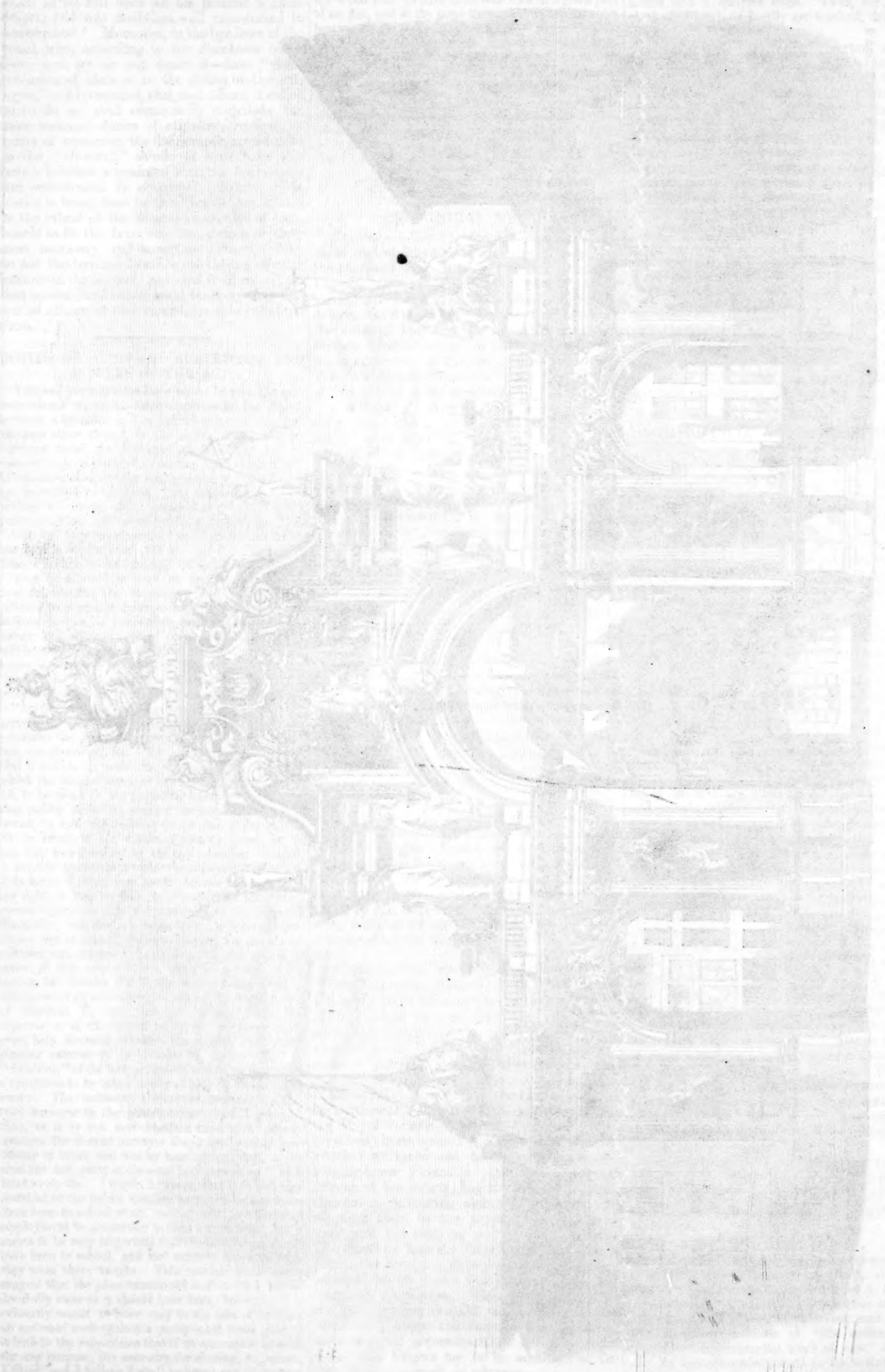
Our engraving represents the triumphal arch erected on the Place de Meir, on the occasion of the recent visit of the King of the Belgians, and of the Duke and Duchess of Brabant. It occupied nearly the entire width of the Place de Meir, at the broadest portion of this spacious street, and was one of the largest erections of this temporary nature that has yet been executed. The dimensions were 105 feet in height, and about 85 in width. The construction was of timber, painted to imitate stone and marble, enriched with an immense amount of gilding, festoons of natural flowers, painted shields, and standards. The engraving renders unnecessary any description of the general mass, which consisted of three arches, the central one being the largest. On the balustrade, which surmounts the cornice, the statues represent the nine provinces of Belgium, of which Brabant, as the seat of government, occupies the centre. The intercolumniations were painted in imitation of Gobelin tapestry, portraying the various attributes of military glory, citizenship, religion, and private felicity. The other pictures in the upper compartments of the construction portray different episodes of the history of the Low Countries. All these pictures were painted, *con amore*, by some of the ablest artists of the Academy of Antwerp. A profusion of genii, cornucopias, garlands, and every object that could increase its magnificence, were employed in the work. Suitable inscriptions dedicated the monument to the happy occasion of the marriage of the Duke of Brabant with the Archduchess of Austria, which was only symbolized by two angels entwining rings formed of serpents. The ornamental part of statues, genii, &c. are of long standing in Antwerp, where the same have been always preserved to be adopted on great occasions; many of them dating from the designs and period of Rubens. The king and his illustrious descendants, expressed to the architect, Mr. F. Beeckmans, their great gratification at the beauty of the arch, and expressed regret that it should only have been destined for a temporary purpose.

Our engraving is from a calotype, taken by request of the king, who received it from the hands of the architect: the latter has favoured us with the copy from which the engraving is made.

Preservation of Architectural Antiquities in Wales.—Having read in the 27th of August number of the *Builder*, the remarks of I. H. E. on the progressive decay of Castel Dinas Bran and other remnants of antiquity in North Wales, more through the thoughtless intrusion of "idle urchins" than from the "slow decaying hand of time," I beg to offer my best acknowledgments to the writer for the suggestions contained in his letter, which, as the owner of the above-named ruin, I will endeavour to carry out.—R. Myddelton Biddulph.



TRIUMPHAL ARCH, ANTWERP.—M. F. BEECKMANS, ARCHITECT.



THE FALL OF A HOUSE IN THE STRAND.

THE inquiry into the cause of this calamity was resumed on the 26th ult. and brought a result which must have surprised most persons. The proceedings have necessarily excited very deep interest, and must have involved a large expenditure, through the number of persons implicated. On each occasion, Mr. Bodkin appeared for the Messrs. Lucas, the contractors for the works; Mr. Ballantine, for Mr. Abraham, the surveyor of the estate; Mr. Robinson, for Mr. Angell, the district surveyor; Mr. Few, for the Duke of Norfolk, the ground landlord of the estate; Mr. Ford, for the Messrs. Smith, for whom the improvements were being executed; and Mr. Hawkins, for the friends of the deceased persons.

The coroner and jury displayed the greatest desire to arrive at the facts of the case, but we could scarcely resist the impression when present, that two or three members of the latter exhibited an *animus* that ought not to have existed. Indeed, on one occasion the coroner evidently felt so too, and expressed himself strongly against it.

Mr. Angell was recalled to say that he considered the building was properly shored when he went on to the ground, on the 19th of August. Did not go into the adjoining house to see if it was shored inside. There were no excavations then at the foot of the party-wall.

Mr. H. R. Abraham, who acted as architect for Messrs. Smith, as well as surveyor to the ground landlord, was then called, and was examined and cross-examined during a period of nearly five hours. He said that when Rowe was appointed foreman by the builders he was thought so good a man that it was determined not have a clerk of the works, and accordingly Rowe took the whole management of the works. The drawing, certified to be correct by Shrimplin, accurately represented the shoring. The witness continued,—

The wall was 18 inches, or two bricks, thick up to the level of the first-floor story, and above that it was 14 inches to the top. The building itself was of the lightest possible description, so that all we had to do was to keep it *in equilibrio*. Anything like a disturbance of the timbers would have been unnecessary and improper, and the purpose of the shores was merely to keep the wall *in statu quo*. We were about to underpin the old wall, and then to build an external wall against it. When Rowe had completed those shores I have spoken of, I required him to put up another one to catch the underside of the bressummer, and the back wall of the house. I also had two more shores put to the part they call the parlour —the one-story building. That was promptly done, and in a very efficient way. That was all that I ordered at that time. There were six jack shores, which were put up, I think, about the 12th of August. The house was one of the oldest, probably, in the Strand, having been built about the time of Henry VIII. With respect to jack shores, allow me to explain that in the building trade "jack" simply means "short." We have jack rafters and jack shores, and so on. It simply means short. There is another shore called a "dead shore," which is a piece of timber placed under brickwork on a plank top and bottom, and used in underpinning. The short shores were, I should think, 10 or 12 feet high, and they were placed, not at points equidistant, but wherever the irregularities of the building appeared to require them. They were put up partly by my directions, and some by Rowe himself. Wherever I saw I had a weak place I had a shore; and if I had seen what, in my judgment, was an insufficient shore, I should have interfered, not because I thought that any responsibility would have resulted to me in consequence, but because it is my duty. I consider that the house was amply shored for the purpose. I never saw a house better shored, and I believe that I have had more experience in this kind of work than most of my profession. Rowe's duty, I conceive, was to take upon himself all the responsibilities that belonged to his master with regard to carrying out the works. My general duty is to see that my design is properly carried out, that the materials are good and sufficient of their kind, and that everything is conducted with safety and propriety, but principally that my designs are properly carried out for the benefit of my employer.

At the urgent request of the tenant, it was arranged that the party-wall should be kept up. On the 2nd of August he told the tenant he would not guarantee safety of the wall. Tenant said it had stood twelve months without any shoring whatever. For one or two days before accident had had difficulty with the excavators, who had undermined house in Arundel-street, and had rendered the back building of the house in Strand insecure. Took various precautions, and warned the tenant that back building was dangerous. Plumbed the main party-wall, and found it practically upright. Left the premises in the afternoon of the day before the accident, with the impression that everything was perfectly safe. The depth of 10 feet in excavations had been reached; but that depth did not, except in one or two instances, go down to the footings. He went on to say,—

Rowe had asked me, before I left, to allow him to go on at once with the underpinning with the old bricks, which were as good as any new stocks that could be procured. However, they were of different sizes, so that they would not bond well together; and, as the specification forbade the use of any old materials, I declined to allow them to be used. Previous to underpinning, the excavations would have had to be carried 2 or 3 feet deeper; but that would have been done a short piece at a time. [In reply to jury]—I do not believe that any of the shores against the house that fell had been undermined, or that there was any excavation below the foundations of the wall that fell. At one part I could see the footings, but the ground was not excavated below them. Elsewhere the footings were some distance below the 10 feet which we excavated. There was no needle shoring, and it would have been an act of insanity to put a needle into that wall; and any operative who would have done it ought to have been discharged from his place. [Being asked by the coroner to what he attributed the accident, witness said]—I think that it is so much open to conjecture that it would be hardly prudent for me to state my own opinion. I should be sorry to lead the jury to believe that they are perfectly correct. I believe that the excavators had undermined the wall; but I did not see them do it. I do not believe that the party-wall was in any way imperilled by the excavations which were made up to the time that I last saw the building; and, when I left, it was perfectly understood between Rowe and myself that no further excavation was to be carried out until I saw Rowe again.

Mr. John Livett deposed that on the morning of the accident, about half-past seven o'clock, he was on the premises in question. He observed men at work near the foot of the wall. At some places they appeared to be about a couple of feet below the footing of the wall; and he remarked that if they did not mind what they were about they would have the house down. He then went away to breakfast, and in a few minutes he heard that it had fallen. It was sand that the men were removing from the foundations; and it appeared to him to be as loose as sand by the river side. A length of 4 or 5 feet of the footings was exposed by the excavations.

John Brown, a coal porter, who was on the premises in company with the last witness, said,—I could see the footings of the house, because it was nicely got out about 2 feet below the foundations, to begin building. There was a good bit of it got out to that depth; I should say as much as the width of this room. The foundation was a nice sandy soil.

Mr. Thomas Bayliss (who volunteered his evidence) said,—I reside at No. 273, Strand, exactly opposite the house that has fallen. I had an opportunity of seeing the works going on for many weeks previous to the accident. The wall of the house had been cut away from one end to the other,—the whole depth from back to front. I saw the bricklayers cutting away at the wall, and I heard them also at it with their hammers and chisels. The whole length of the wall—footings and all, I believe,—were cut down straight. I pledge my oath that that plan which you produce (the plan signed by Shrimplin and Brown) represents more short shores than there were.

The report of the surveyors, Messrs. Dent, Lawford, and Stevens, appointed at the previous sitting to inquire "whether there has been any want of due care and circumspection in shoring up the premises, and whether any means might have been resorted to which would have had the effect of preventing the falling of the house in question," was then read. In reply to the first, the report said,—

"As to the materials used for shoring, we are of opinion that they were ample in dimensions, and of the best quality; that those which were fixed were of proper construction, and in all respects fit for the purpose; but we are further of opinion that, assuming the evidence of William Shrimplin to be correct as to the length of the shores and their distance from the party-wall at the foot, by which the whole weight of the basement and ground-floors was unsustained, additional shores should have been placed underneath, more especially as the whole area on the east side had been excavated to a considerable depth below the kitchen-floor of No. 184, and also was stated in some places to be below the footings of the party-wall, and having further reference to the character of the foundation on which it stood, being composed of gravel and sand, and some portions of clay." And as to the second, "we are of opinion, that provided the floors of No. 184 had been shored up on the west side of the party-wall, to take off the downward pressure, and provided also additional shores had been placed under those fixed in the east side, to secure the ground and basement walls of the east party-wall from pressing out, and that the wall had been underpinned to the depth of the footings of the intended new building, the accident would not have happened."

It further stated that the reporters had learnt that both Rowe and Mr. Abraham had paid all the attention that was deemed necessary, and they believed that there could be no better judges of what is necessary for safety than "those persons in charge of the works, and interested in their proper execution."

Mr. Stevens, when examined, said,—

I attribute the fall of the party-wall to the removal of the ground below the footings, which permitted them to slip out, and think that it might have been prevented if the wall had been gradually underpinned in short lengths as the ground was removed, instead of removing it all at once. If the floors had been properly shored up inside, I do not think that the house would have fallen, even if the party-wall had. My opinion is, that the shoring was not sufficient. I should have placed the raking-shores precisely where they were. Other shores I should have placed under them, and then I should have dug out the earth and have underpinned the wall, piece by piece, in the way in which the lower part of a wall that is decayed is usually renewed. On the evidence of Mr. Abraham, I should say that the wall was perfectly safe upon the Wednesday when he left the premises. I found the ground, however, to be excavated 11 feet, and not 10 feet, below what may be called the datum line; and I found that that excavation was 18 inches below the remaining footings. It would be quite possible to excavate in an hour sufficient to shake that which before had been perfectly secure.

The Coroner, in the course of summing up, told the jury it was their duty carefully to weigh the evidence, and to say whether any criminality attached to any of the parties engaged in the work in progress. He hoped, as this inquiry had created a great amount of public attention, and had occupied a great deal of their time, that its effect would be to show that persons could not engage in responsible undertakings of this description without taking care that the utmost attention was paid to the safety and security of every part of the work. It must be remembered that the Buildings Act, however imperfectly the Legislature might have expressed its intentions, clearly had it in view to protect the public in every shape and way. With that view, it had appointed certain officers called "district surveyors," and the 68th section declared that it was their duty, whether notice was served upon them or not, to inspect works which were intended to be done or that should have been commenced. In this case the district surveyor had made a preliminary visit to the premises, and he did not think that the works would have been commenced without his receiving further notice. It certainly was a matter of regret, although it appeared to be a subject of perfect notoriety that the premises were in danger, that no single person had recourse to the only certain mode of obviating the accident by informing the district surveyor of the circumstance. It was important that the public should know that, under the 40th section of the Act, the district surveyor had the power of interfering, however long a time it might be before the interference could take effect. With regard to the Messrs. Smith, they were clearly relieved of all responsibility by their contract with the builders, because it could not be expected that the building owners should themselves execute the works.

The jury, after an absence of two hours, brought in the following verdict:—"We unanimously find that Robert Thompson, Sarah Thompson, George Dunne, and George Rowe, came to their respective deaths by the falling of the house No. 184, Strand, and that the falling of such house is to be attributed to the gross negligence of Mr. Abraham, the surveyor employed by the Duke of Norfolk and the Messrs. Smith, in not causing the party-wall to be sufficiently shored up and underpinned before the excavations for the new building were commenced. Before we separate we are anxious to express our approbation of the conduct of the Messrs. Smith in volunteering to bear the expense of employing the three independent surveyors to ascertain the cause of the accident."

Being told that their verdict amounted to a

verdict of "manslaughter" against Mr. Abraham, they said they were anxious it should not amount to that, but ultimately stated that they could not retract, whatever the consequences might be, and accordingly a verdict of "*manslaughter*" against Mr. Abraham was recorded.

We are averse to questioning the verdict of twelve intelligent and honourable men, but we are nevertheless bound by our duty to state, that we seek in vain for a justification of it in the evidence placed before them. That there was a great error of judgment somewhere is not to be denied, but, as the coroner pointed out to them, this would not justify a verdict of "manslaughter;" for that there must be gross criminal negligence, and this certainly was not proved.

Mr. Abraham appears to have given more personal attention to the work than usual; and the three surveyors appointed by the court pronounce, upon the evidence, that they believe the wall was perfectly safe when Mr. Abraham left the premises on Wednesday afternoon.

NOTES AND QUERIES.

ARCHITECTURAL AND ARTISTICAL.

REPLIES.

Gelatine Moulds.—In answer to query 7, p. 610, *ante*, I beg to say that an illustrated article on "Gelatine Moulds" will be found in Mr. Cole's "Journal of Design," July, 1851, vol. 5, p. 131. J. L.

Illuminated Clocks. — A Liverpool correspondent, "W. S." in reference to the "Query" of "S." as to the illumination of clock-fingers, describes a method by means of which clock-fingers may be lighted, and which mainly consists of the transmission of gas through tubular fingers, protected by gas-tight stuffing-boxes, to jets either along the course of the fingers or at their extremities only. The latter mode is adopted at the clock of the old church (St. Nicholas) at Liverpool, but with such a background of single lights as the town presents, it has not been found, it seems, to answer. Perhaps by the aid of coloured glass, both for protection and for perspicuity, even single jets might be made to indicate the time with sufficient distinctness.

PRIZE FOR COTTAGE VENTILATION.

Mr. Macnamara, of Purfleet, Essex, has obtained the silver medal offered by the Manchester and Salford Sanitary Association for the best method of cottage ventilation; and the thanks of the Association were given to Mr. T. Dunhill for his paper on the same subject.

THE CASTLE OF NEWCASTLE.

The Newcastle Society of Antiquaries held their monthly meeting on Wednesday evening, in week before last, Mr. John Fenwick in the chair, when, after various minor proceedings, Mr. W. H. D. Longstaffe, of Gateshead, read the second part of his paper on "The Castle of Newcastle." The first part had dealt with the *documentary* evidence; the second treated of the *structural*; and is pretty fully reported in the *Gateshead Observer* of 10th ult. to which we are indebted for the materials of the following brief notice.

After a learned disquisition on the origin and early history of the various portions of the castle, through which we cannot follow the lecturer, he proceeded to speak of its general construction. We have seen, he continued, that the keep and hall and kitchen of New Castle were called old in 1237, some sixty years after erection, and that between 1313 and 1334 sufficient time elapsed to reduce both keep and outbuildings to a state of utter dilapidation. In little more than twenty years after the completion of Conway Castle, a jury found that the great hall and cellar under it were ruinous on account of the *age* of materials and default of lead, and could not be repaired under 160*l.* of which the masons' work amounted to 100*l.* Other towers were also in a precarious state, and ruinous, even as to masonry. All this seems very odd. The great use of wood, the imperfect exclusion of the weather by unglazed windows, and the wilful dilapidation by keepers who made the most of their temporary tenure by stealing lead and other valuables (and this accusation is more than broadly hinted at in the Newcastle documents), might effect the dilapidation in some degree. But the way in which the masonry of towers had decayed can only be accounted for on the ground of those terrible settlements we see in so many ancient buildings; endangering the existence of steeples, twisting whole sites of buildings out of perpendicular, and throwing arches into the most eccentric curves. The plan of working by contract (*ad tascham*) may have had its effect; but from whatever reason in the main, the rule-of-thumb buildings of our fathers were often ill-founded and ill-built, and their splendid materials (calculated, when well applied, to last for ages, as they frequently have lasted), were to a great extent thrown away; and the frequent reparations and rebuildings we have chronicled were thus rendered absolutely necessary.

SIGHTS AND SCENERY.

Theatre Royal Drury-lane.—The series of performances by Mr. G. V. Brooke and Mr. Davenport, supported by Miss Anderton, Mr. Younge, and others, with which Mr. E. T. Smith has commenced his season here, are sufficiently remarkable to call from us, as lovers of the drama, words of commendation; and the success which has attended them will, it may be hoped, lead the management to attempt a greater amount of completeness in the scenery and accessories than has yet been effected. In *Othello, Iago, Claude Melnotte, Sir Giles Overreach,* and *Virginius,* Mr. Brooke has shown himself an actor of no ordinary powers, whose faults are due rather to his audience than to himself, and it is much to be regretted that his present stay will be but short.

Notices of Books.

A Collection of Curious, Interesting, and Facetious Epitaphs. By Joseph Simpson, Librarian of the Islington Literary and Scientific Institution, 1, College-place, Highbury-vale.

Some time since we published, it will be remembered, a number of the absurd epitaphs which disgrace our churchyards, with the view, of course, of leading to the adoption of more fitting expressions. We might have continued doing so till now, for examples were forwarded from all quarters, but our object was not to record them, but to expose the absurdities that were committed, and induce a reform in the practice.

"I love," says one correspondent, "to stroll into a village churchyard in the evening of a mild summer's day, and to linger among the 'mouldering heaps' at a time when 'all the air a solemn stillness holds.' I have frequently done so; and upon some occasions have been much interested when perusing the inscriptions which affection, esteem, reverence, or gratitude, had caused to be graven on the tomb, vault, or headstone erected to the memory of 'departed worth.' To persons who possess minds of a contemplative turn, the pompous style of many of these effusions, and the ludicrous character of others, will furnish sufficient matter for meditation," — yes, indeed, and for sorrow. Take this odd example which a second correspondent, "T. G." sends from Wirksworth Church, near Matlock:—

"Near this place lies the body of
Philip Shalcross,
Once an eminent *quill-driver* to the attorneys in this town,
he died 17 Nov. 1787, aged 67.
Viewing Philip in a moral light, the most prominent and remarkable features in his character were, his real and invincible attachment to dogs and cats, and his unbounded benevolence towards them, as well as towards his fellow-creatures.

To the Critic.

Seek not to show the devious paths Phil trod,
Nor draw his frailties from their dread abode:
In modest sculpture let this tomb-stone tell,
That much esteemed he lived, and much regretted fell."

The first writer sent one from Amwell Churchyard, Herts, more philosophical than usual, but much too involved for its purpose:—

"That which a being was, what is it? show?
That being which it was, it is not now.
To be what 'tis, is not to be, you see:
That which now is not, shall a being be."

Even where the teaching is good, the lesson is conveyed, if not illiterately, so inelegantly that it can excite only a smile. Thus, in Cookham Churchyard, on the Thames, near Maidenhead,—the mention of the place recalls vividly a bright summer morning and a float up here with much-prized friends; the ancient church, and the inn with no less a signature than "Old Bel and the Dragon,"—we stumbled on one which, although dated 1816, ran thus:—

"All you that pass this way along,
O think how sudden I was gone.
God does not always warning give,
Therefore be careful how you live."

The curious collection published by Mr. Simpson contains many specimens of churchyard ribaldry, as this from Stepney Churchyard:—

"My wife she's dead, and here she lies;
There's nobody laughs and nobody cries:
Where she's gone, and how she fares,
Nobody knows and nobody cares."

Or this from Tynemouth Churchyard:—

"Wha lies here?
Pate Watt, gin ye speer.
Poor Pate! is that thou?
Aye, by my soul, is't;
But I's dead now."

The compiler says,—"The design of the present collection being to exhibit 'epitaphs as they are,' as well as 'as they ought to be,' no attempt at classification has been attempted." We think, however, he should have pointed out how few there are in the collection which can be placed under the second heading.

The Principles of Commerce and Commercial Laws, explained in a Course of Lectures. Delivered by Sir George Stephen, Barrister-at-Law. London: John Crockford, 29, Essex-street, Strand. 1853.

Comparatively little opportunity occurs in the counting-house for acquiring a knowledge of the elementary principles of trade; and the elaborate and expensive books of Mr. McCulloch and Mr. Levi are more adapted for reference than elementary instruction; so that in fact the very foundations of a school of practical and theoretical commerce yet remain to be laid. This little work, so far as we are aware, is the first attempt to convey to the young student the principles of commerce in a didactic form; and it is worthy of its purpose as the foundation-stone of a mercantile school, which the most mercantile nation on the face of the earth has yet to erect. The commercial world are deeply indebted to Sir George Stephen for this important little work, which is appropriately dedicated to the Mayor of Liverpool; and we trust it will meet with that extended patronage among the gentlemen of the counting-house which it fully merits.

Miscellanea.

The Burial-ground Orders in Chelsea.—A vestry-meeting was held September 15th, at St. Luke's, Chelsea, to take into consideration the order of the Home Secretary "to close wholly and at once the church vaults of St. Luke's, and with the reservation of existing rights in the old parish churchyard, in the old burying-ground in the King's-road, and in that portion of the churchyard which has already been used for interments, the same to cease altogether with the same reservation at the end of twelve months." Several gentlemen addressed the meeting, stating that St. Luke's parish is placed in a very harassing position by the order of Lord Palmerston. In 1810 the parish obtained a local Burying-ground Act, and borrowed, by way of annuities, 6,000*l.* which is not yet liquidated; and a burial-ground rate has been yearly levied since that date. That two-fifths of the burying-ground have never been used; and that no complaints have ever been made against St. Luke's; but, on the contrary, the vicinity to its burials has been more free from epidemics than any other part of the parish. The trustees under the Act had in a memorial stated these facts to Lord Palmerston, and who expressed his regret that he could not alter his opinion. The next step taken was to memorialize the Queen in council; and Mr. Loveland, the clerk to the trustees, waited upon the clerk in council to inquire if the parish could be heard by counsel before the Lords' Committee in council, to oppose the order to close their grounds so prematurely. Mr. Loveland was informed that such a proceeding would not be allowed, and that the vestry had taken all the measures they could to oppose the notice. With regard to Dr. Sutherland, it was stated by Mr. Johnson, the sexton, that the doctor went over the ground and expressed himself, after a rigid examination, satisfied. In about half an hour's time after leaving the churchyard, the doctor returned and said he had altered his mind. The vestry ultimately passed a resolution empowering the trustees to oppose the order in every way they could, as being one uncalled for, and a very hard measure to the parishioners.

Fall of a Floor.—In Brewer's-court, Great Wild-street, Lincoln's-inn-fields, lately, the floor of a ragged school fell in while a meeting of the directors and friends was being held. Some of those present sustained severe bruises, but none were killed.

THE IRON PAVEMENT IN AMERICA.—The iron pavement laid down in the streets of Boston has, it is said, been eminently successful. After seven months' wear, and the frosts of winter, the street is said to present as smooth a surface [rather too smooth, may it not be?] as when the pavement was first laid, and the sensation of riding upon it is like that of passing over a bridge. This pavement, which is said to have been invented by Mr. W. D. Terry, is described as consisting of cylindrical boxes of cast-iron, about a foot in diameter, divided into compartments so small as not to admit the hoof of a horse. These cells are filled with gravel, or any suitable substance, and the upper surface so grooved as to prevent the possibility of a horse slipping upon it. The boxes are firmly bound together by flanges and commissures, yet the pavement, it is added, can be easily taken up in case of necessity.

IMPROVEMENT IN HYDRAULIC RAMS.—These very useful instruments appear to be less appreciated in this, their native country, than in America, where they are being improved and modified for special or general purposes. The scientific committee of the Franklin Institute of Pennsylvania have lately reported on an improvement of the ram by Mr. J. L. Gatchell, of Elkton, Maryland. According to the reprint in their *Journal*, under date May last, the first improvement submitted for examination consisted in the use of a chamber between the body of the ram and the air vessel, in which chamber is placed a flexible diaphragm, depressed by a spring, but capable of elevation by the recoil, thus communicating the momentum of the water passing through the body of the instrument to that contained in the air vessel; the principal advantage of this mode of construction being the making the ram "double acting," that is, keeping the water in the air vessel separate from that driving the instrument; so that the water of any flowing stream, although unfit for domestic or manufacturing use, may be made available for raising the whole supply of a good spring. This effect has been before produced, both by sliding pistons and by interposed columns of air; but the use of the flexible diaphragm, by its tendency to produce a vacuum in the chamber above it when depressed by its spring, enables the water to be lifted into this chamber by atmospheric pressure or friction, and this feature the committee regard as a novelty. It moreover appears probable that the mechanical action of this diaphragm will react upon the discharge valve, and thus have a tendency to prevent the stoppages which have so often been a cause of annoyance in the use of hydraulic rams. The second improvement presented was a method of further preventing these stoppages by placing a spring upon the head of the ram, so that it shall be slightly lifted at every rise of the valve. The third improvement was in the method of regulating the discharge of the water from the head valve, through a series of orifices around the circumference of a disk.

ARCHITECTURAL EDUCATION.—Walking along the streets of London with an intelligent foreigner, if there is anything that makes an Englishman sometimes ashamed of his country, it is the frequent deformity of our public buildings. To mention instances would be a needless labour. It is all very well to say that we are mainly a commercial community, a practical people, and that ornament must give way to convenience, and taste to utility. But architecture is of all arts that in which the useful and the beautiful may best be combined. We have public edifices which are standing proofs of the national capacity for great architecture, and the admiration of them proves the popular appreciation of the art. But still there are occasional exhibitions of miserable invention and of bad taste, and some of the most recent public structures are amongst the worst. The general condemnation of an unsightly building is a gratifying symptom of public taste, for the education and refinement of which so much is now being done. But it is worthy of consideration whether something meanwhile might not be done to prevent the perpetration of architectural offences. Under the existing Building Acts, it is necessary that the most trifling constructions and alterations in private buildings should be submitted to the inspection of district surveyors. It might surely be easily provided that the plans of edifices of public prominence or importance should be submitted to some competent public board. Demosthenes told the Athenians of his time, that while the houses of Miltiades and Aristides were undistinguished from those of other citizens, the public edifices were carefully adorned with the most splendid magnificence. And in Rome, Horace mentions the *Leges*—

"Oppida publico
Sumptu, jubentes, et Deorum
Templa, novo decorare saxo."

There are some of the institutions of old Rome which might be usefully imitated in our modern civic arrangements, and of these not the least important would be an effective board of Ædiles.—*Literary Gazette.*

A ROMANCE OF THE TROWEL AND THE MALLET.—A trowel and mallet used by his Royal Highness the Prince Consort, on 11th June, 1844, in laying the foundation-stone of the Hospital for Consumption, at Brompton, have just *realized*, it may be said, for the hospital, the handsome sum of nearly 15,000*l.* in a way so singular as to be well worth recording, in our pages in particular, as we now do, by transferring the story, in a condensed form, from the columns of the *Press:*—When the stone was laid, a gilt trowel, manufactured by Messrs. Elkington, was made use of by the Prince. At a bazaar then held, in aid of the institution, this trowel was exhibited, and a gentleman who saw it, Mr. John M'Cullom, of Bedford-place, purchased it for thirty guineas. A few days afterwards it became first known to the committee that it was usual to request the layer of the stone to accept the trowel, and all concerned were desirous of repairing the error and regaining possession of the implement, that it might be offered to the Prince. A representation was made to Mr. M'Cullom, and, though very reluctant to part with it, he at length consented, but refused to take back the thirty guineas. The trowel, being sent to the Prince, was accepted. Mr. M'Cullom was presented with the handsomely-carved walnut-wood mallet also used by his Royal Highness. These circumstances, trifling in themselves, seem to have made a lasting impression on Mr. M'Cullom's mind. So far from feeling aggrieved at the loss of the trowel, the transaction appears to have strengthened his interest in the charity which he thus, for the first time, became acquainted with. On his death, a short time since, he left his property to his sister, his only surviving relative; but a memorandum in his desk conveyed his desire that, at her death, she would bequeath it to the Hospital for Consumption. This wish the lady held sacred; and by her will, just proved, she leaves it to the hospital. Her estate is being realized, and will leave a net surplus not far short of 15,000*l.*

INSULATION OF LIGHTNING CONDUCTORS.—Mr. S. Brown of Sheffield, has introduced an improved form for the glass insulators of lightning conductors. A glass flange overlaps the ring of the holdfast, and a projection from it covers the shank of the holdfast up to its entrance into the stone or brick work. Among the churches on which Mr. Brown has recently been employed to affix his conductors, are the following Hessle church, near Hull, where the conductor has been affixed, and the spire and tower have been repaired and pointed; Baslow church, where the same has been done; Sprotborough church, where the conductor has been affixed, as well as at Sprotborough Hall; Wellbourn church, near Grantham; Leighton Buzzard church, Bedfordshire, &c. Conductors have also been erected at some of the large manufactories of Sheffield, Derby, and other towns.

DRAINAGE OF A LAKE BY A SYPHON.—A loch and marsh in front of Culhorn House, the seat of the Earl of Stair, according to the *Galloway Advertiser*, are in course of being drained by a syphon. There were about 8 acres of water above 16 feet deep in the centre, and fully 20 acres of marsh. The water is now lowered 9 feet under its former level in the loch. It might be drawn lower still, but much difficulty has arisen from the sludge pressing in toward the mouth of the syphon, and from the whole bottom of the loch consisting to a great depth of an impalpable sludge, which must take some time to consolidate and become workable. The complete drainage of the loch, consisting of such materials, will take another summer to complete thoroughly. The undertaking has been carried out by Mr. Wright, plumber, Stranraer, under the superintendence and with the engineering aid of Mr. M'Harrie, his lordship's overseer. The syphon is 880 yards long (exactly half a mile) and 7 inches in diameter. The highest part is 21 feet above the present surface of the loch, and the longest limb of the syphon is 10 feet under the level of the water, giving 10 feet of fall. The discharge of the water at the present time is about 200 gallons per minute; but at first, when the loch was at its original height, and the fall greater, the discharge was much more. The main part of the syphon consists of cast-iron pipes $\frac{1}{4}$th of an inch thick, with spigot and faucet joints very carefully joined and made air-tight with lead. The contract expense of the iron pipe laid, when complete, was 7s. 6d. per yard. The access of air had to be specially provided against by means of an air-pump worked by the stream discharged.

LIQUID INDIA RUBBER.—A correspondent of a New York paper, writing from Para, in Brazil, says that by a method recently patented, and which differs essentially from the usual curdling, the milk, as drawn from the tree, is bottled in large glass bottles and demi-johns; a preparation of some chemical nature, which is a secret, is mixed with the milk, and the bottles are securely sealed. In this way the gum is sent to the United States. It curdles twenty-four hours after exposure to the air, and forms, it is said, a pure, white, solid, and remarkably strong rubber.

SOMERSET ARCHÆOLOGICAL SOCIETY.—On 14th inst. the society, after the various proceedings connected with their annual meeting, had an excursion to Brympton, Odcomb, Stoke, and Montacute, after which they held a meeting at the Town-hall, Yeovil, when the Rev. F. Warre read Mr. Freeman's paper on the Architecture of the vicinity of Yeovil. Previous to the excursion, Mr. Walter read a paper on Hamdon-hill, in which he stated that it was not, as generally supposed, an immense rock of building-stone, nearly inexhaustible; for the greater part of the hill was sand, which largely extended to the eastward, and in which boulder stones of considerable size were embedded. Upon this was a pefectly compact bed, from 20 feet to 50 feet in depth, below which none had been found; so that this valuable bed of stone would, from the demand for it, become in time somewhat scarce. He said "valuable stone," although Dr. Buckland had stated that it was of a perishable material. He was under a delusion in stating that our ancestors had called it the best stone, for it was well known that formerly the rocks were worked down only to a certain depth, and left covered with rubble, below which the quarrymen were now cutting, and the most compact stone was found at the lowest depth. A well had been sunk in the hill to the depth of 120 feet; about 40 feet of stone had been penetrated; next about 60 feet of sand; next to this was the upper lias, then the marlstone. In his paper on the Battle of Longborth, reported in the *Taunton Courier*, the Rev. W. A. Jones after remarking that Dr. Owen Pugh represents Longborth to have been "some harbour on the south coast, probably Portsmouth," proceeded to identify it with Langport. The Welsh word Llongborth signified a port or harbour for ships, and bearing in mind that Celtic names are invariably descriptive of localities, it would be necessary to show that the estuary now confined to Bridgewater Bay did at that time cover the plains of Sedgemoor, and thus make Langport accessible to such ships as the Britons then possessed. Having glanced at the great change which had taken place within the historic periods in the coast line of the country, Mr. Jones observed that even now Langport was within reach of the tidal waters; that Porthkerry, on the opposite side to Bridgewater Bay, was at one time frequented by "Cevi of the extensive navy," but was now quite inadequate to the accommodation of a fleet; that the characteristics of both sides of the Polden hills afforded conclusive evidences of changes on the English coast of the Channel, and that there had been a gradual elevation of the level between Langport and the sea by the action of the floods, the subsidence of the muddy waters of the Severn and the accumulated growth of aquatic vegetation, as the character of the alluvial deposits of the turf moors clearly indicated.

THE CARPENTERS AND JOINERS OF BRISTOL have held a public meeting, at which the following resolutions were unanimously adopted with regard to working overtime:—"That this meeting considers the present system of overtime, as adopted by several shops in Bristol, not only injurious by keeping a number of men unemployed, but that it is highly detrimental to the physical, mental, and social condition of man, by depriving him of the short time he would otherwise have for the improvement of his intellectual faculties; injuring his health, and alienating him from his family. That in order to remedy the existing and still growing evil of overtime, this meeting pledges itself to use all lawful means to destroy such a system, and recognises as a general rule that no man work more than two hours for a quarter of a day overtime, believing that such a rule would materially mitigate the evil; and recommends that no man do work overtime unless in cases of emergency."

APPOLD'S CENTRIFUGAL PUMP.—This now celebrated pump is employed to drain the marshes about Oulton, Carlton Colville, and Barnaby. It discharges 300 barrels of water a minute into the Waveney, and lowers the level 6 inches in the hour. A large tract of rich soil, it is believed, will thus be fully redeemed from the marshy state.

MANUFACTURE OF IRON AND STEEL.—Mr. T. W. Dodds, of Rotherham, has patented various improvements, among which he claims,—1. A general arrangement of machinery. 2. The conversion of iron into steel, wholly or partially, by the use of a carbonaceous fuel, or a mixture of soda-ash, soda, potash, pearl-ash, or other alkaline matter, and carbonate or bicarbonate of lime and charcoal. 6. The mode of adjusting the anvil level of steam-hammers by means of a hydrostatic cylinder or chamber. 7. The mode of working hammer or tilt-levers, so as to strike in both directions by the use of a rotary crank-shaft connected therewith. 8. The use of an atmospheric buffer for increasing the rapidity of the hammer strokes. The use of cork, or other partially elastic material, at the points of metallic connection of hammer, details for the purposes described.

SICKENING NUISANCE IN LAMBETH.—A deputation of the inhabitants of Westminster-bridge-road and its vicinity went last week to the Lambeth Police-court to consult the magistrate as to the abatement of an abominable and deadly nuisance arising from the boiling of putrid fat; but they found that there is actually no means whatever of summarily dealing with such a nuisance. We do verily believe that "the liberty of the subject" to carry on whatever "trade" he may choose, and at whatever cost to the lives of his fellow-subjects, is so great and so respected, that even were the materials of this fat-melting got from the nearest graveyard, nothing "summary" could be done to abate the nuisance. And, by the way, the roasting, at least, of human remains, if not the boiling of them, has actually been practised within the precincts of this enlightened metropolis. There is nothing abominable enough for the law as it stands to be able summarily to suppress as a nuisance, if the nuisance be committed under guise of a "lawful calling"—a legitimate "trade" in this nation of shopkeepers and tradesmen. A complete revolution in the law as it affects the progress of sanitary reform, therefore, must be brought about as speedily as possible. It is only to be feared that the pestilence will be again decimating Lambeth, one of its first and favourite haunts, ere any thing *can* be done to reform the law. The late order in council, it seems, does not reach such a case as that in question. A summons, however, has been granted "so that the evidence might be taken and the defendant held to bail to answer to an indictment at the sessions."

THE IRON TRADE IN AMERICA.—One of the most wonderful features of the day, says the *United States Mining Journal*, is the immense progress hourly making in extending the manufacture of iron in the United States. We are receiving information daily from all parts of the Union of the formation of companies, the blowing in of new furnaces, and the erection of the latest improved machinery for the turning out of vast quantities of iron. In fact, it will not be long before we shall be independent of foreign supplies; and we look forward with certainty to the time when we shall undersell England in all the markets of the world. Capital is eager for investments in making iron—labour is steadily coming in from the Old World—fuel is abundant and cheap, while iron-ore is found in every state of the Union. In Pennsylvania alone we have more iron-ore than has been found in the British Isles—New Jersey has miles and miles of ore—Missouri has mountains of solid ore, exhaustless and easily worked, while Lake Superior produces her ore with ninety per cent. of pure iron. Why then have we been so long dependent on England? The time is fast approaching when we shall even supply England herself with iron of superior quality. And what so fortunately has drawn forth the long dormant energies of our people? Not a protective tariff; but *the grasping avarice of the British ironmasters, who*, in exacting exorbitant prices when the wants of our railroads produced an increased demand, *are fast killing the golden goose*.

AMERICAN PATENTS.—Amongst patents recorded in the journal of the Franklin Institute of Pennsylvania for April last, we find the following:—For an improvement in manufacturing malleable iron directly from the ore; George A. Whipple, Newark, New Jersey. Claim—"Forcing down upon the iron ore, from the roof of the furnace, in the different stages of the process, as required, and on the different hearths, atmospheric air, either heated or cold, for the purpose of decarbonizing the ore, and bringing the iron to nature, or refining the same and regulating the degree of heat, substantially as described."—For an improvement in cementing materials for ornamental compounds; Charles Ludwig Gran, Hamburg, Germany, assignor to Conrad Poppenhusen, Brooklyn, New York; patented in Germany, December 18, 1847. Claim—"The method of making artificial veneers, &c. by combining with sawdust, or the equivalents thereof, as herein specified, the curd of milk, and lime, or its equivalent, after these latter have been triturated and thoroughly mixed and reduced to a semi-fluid state, substantially as specified."—For an improvement in patent compounds; Charles F. Sibbald, Philadelphia, Pennsylvania; patented in England, October 15, 1852. Claim—"Having described the manner in which my metalline compound may be made, and pointed out a few of its uses, I do not claim either of its elements separately; but what I do claim as my invention is, the compound of tallow, plumbago, and charcoal, herein specified, substantially in the manner and for the purposes herein set forth."

BUILDING FOR FREE LIBRARY AT LIVERPOOL.—A sum of 6,000*l.* has been presented by Mr. William Brown, M.P. to the Liverpool corporation for the erection of a free library, which it is proposed to build on a site at Shaw's Brow, when raised to a higher level, in connection with a proposed high level bridge and other improvements.

SALTAIRE.—This huge worsted manufactory was opened on Tuesday in last week with a dinner on a scale equivalent to its magnitude, 3,750 persons, including 2,500 operatives, having sat down to dinner together on the occasion, which combined not only the formal opening of the establishment, but the completion of the fiftieth birthday of the proprietor, Mr. Titus Salt, and the majority of his son. The Earl of Harewood, Lieut.-col. Adams, the mayors of Leeds, Bradford, Halifax, and Wakefield, and several members of Parliament were present. Saltaire, as we have before noted, is near Shipley on the Aire. We have already given some account of this gigantic establishment, which is said to have cost nearly half a million of money: this, however, is probably an exaggeration. We may here further quote some particulars from the *Bradford Observer* as to the extent, &c. of the works. The area appropriated to the buildings is computed at 6 acres, while the several floors in the mills, warehouses, and sheds, form a superficies of 55,600 yards, or 11½ acres. The mill, which runs from east to west, will be 550 feet in length, and 72 feet in height above the level of the rails. It includes six stories, and is constructed of massive stonework in the boldest style of Italian architecture. The walls look like those of a fortified town. The floors are formed on arches of hollow brick, made on the ground by Clayton's patent process; the openings in the bricks being used for the purposes of ventilation. Rows of ornamental cast-iron columns and massive cast-iron beams support the arches. The roof is of iron. The windows, of large size, are entirely filled with immense squares of cast plate-glass. The whole of this building is fire-proof. The whole of the works are constructed of stone, supplied by twenty quarries in the surrounding neighbourhood. The gas-works are upon White's hydro-carbon system, and are calculated to supply 100,000 feet per day for 5,000 lights, in mills, sheds, street, and houses of the workpeople. 4,500 hands will be required to keep these works going. This will involve an addition to the population of Saltaire of from 9,000 to 10,000 persons. To accommodate these, Mr. Salt proposes to erect forthwith 700 dwelling-houses of various classes, replete with every convenience requisite for the health, comfort, and well-being of the inhabitants,—a noble opportunity, which it is to be hoped will be fully taken advantage of. The architects are expressly enjoined to use every precaution to prevent the pollution of the air by smoke, or the water by want of sewerage or other impurity. Wide streets, spacious squares, with gardens attached, ground for recreation, a large dining-hall and kitchens, baths and washhouses, a covered market, schools, and a church, each combining every improvement that modern art and science have brought to light, are ordered to be proceeded with by the gentleman who has originated this undertaking.

ROYAL BAVARIAN CHAPEL, WARWICK-STREET, REGENT-STREET.—Considerable alterations have been made in the Warwick-street Roman Catholic Chapel. A new altar-piece has been put up, occupying the whole space of the end of the chapel, with four Corinthian columns, six pilasters, and sub-pilasters running the whole height. In the centre is a large sculptured tablet, 14 feet high and 7 feet wide, representing the Virgin Mary, and cherubims, by Mr. Carew, lighted from above. The cost of this, we are told, was about 1,000*l.* A new ceiling has been put up. The seats in the body of the chapel have been rearranged, and other works done, under the direction of Mr. Erlam, architect. Mr. Holder was the builder, and W. Hemsly clerk of the works.

FOLDING STEPS FOR OMNIBUS-ROOFS, &c.—An invention has been registered by Mr. Bayliss, of the Strand, for convenient access to the roofs of omnibuses. It consists of folding steps with hand-rails, and is said to give no additional trouble to conductors, and create no loss of time either to omnibus or passengers. Folding steps for private carriages were invented and patented many years ago, but this modification of the idea of folding steps is probably new.

WATER METER.—A water measurer has been patented by Mr. Taylor, of Mason-street, Manchester, of which the local *Courier* gives a description, from which the following particulars are gathered. The instrument is simple, presenting outwardly something of the appearance of a large dwarf steam-engine cylinder, and inwardly that of a common water-wheel, working horizontally instead of perpendicularly, in the cylinder, with two streams of water shooting from two points, inlets in the circumference of that cylinder, and communicating a rotary motion to the wheel by striking upon its boxes, attached to the pivot on which it works a series of other wheels that work a dial, on which are registered the number of revolutions made according to the force of the column of water pouring in through the inlets. Of course the quantity of water required to move the wheel and its machinery is a matter of calculation.

MACHINE FOR BENDING TIMBER.—A new machine for bending timber for ships, and other uses, is spoken of by the *New York Herald*, as having been invented by Mr. T. Blanchard. It will produce as great a revolution in the moulding of wood, says the *Herald*, as Wordsworth's planing machine has in its operations. A company has been formed for the purpose of purchasing the rights for the United States. Professor Mapes, in speaking of the scientific operation of this timber-bending machine, as adapted to the building of vessels and the manufacture of household furniture, says, "By the plan of Mr. Blanchard, straight timber can be bent to all the required forms, and this, too, without abridging the capillary tubes of the wood; for, instead of pursuing the old mode of stretching the outer fibres and compressing those of the inside or shorter line, he confines the outside of each stick to its original length by end pressure, forcing the fibres into a new figure without rupture, and retaining all the original strength of the wood. The bending is performed while the vegetable albumen is softened, and thus much of it must exude, improving the lasting properties of the wood."

LECTURE ON ARCHITECTURE AT SHEFFIELD.—On Tuesday week, Mr. Hugh Thompson delivered a lecture to the students of the People's College on "Ancient English Architecture," from the time of the Romans to the Reformation, including the Elizabethan period. In speaking of local specimens of the several styles treated of, the lecturer alluded to Rotherham Church. This, he observed, is a particularly fine specimen of the Perpendicular style. At the first glance, it would appear perplexing that a town like Rotherham should be possessed of such a church. But it is accounted for from the fact that it was the birthplace of Thomas Scott, the eminent divine, who was Bishop of Lincoln, and afterwards for twenty years Archbishop of York. It was natural to suppose that his influence went far towards procuring for his native town this extraordinary ecclesiastical structure; and to his influence, even at this day, Rotherham owed the possession of a fellowship to the University of Oxford. The lecture was illustrated by numerous drawings of churches, cathedrals, &c.

ELECTION OF SURVEYOR OF KENTISH TOWN PAVEMENTS.—One of the competitors writes to us complaining that of three testimonials sent in by him with his application for the surveyorship, only one was opened, so that the commissioners could not by any possibility either ascertain the nature or the comparative superiority of his qualifications, or do justice in the competition. He thinks it exceedingly unjust to ask for testimonials and not take the trouble to look at them, after being procured and sent; and he wishes us to forewarn others what treatment they may expect in future cases, and to advise them to save themselves all trouble, expense, or anxiety as to testimonials.

PROPOSED IMPROVEMENT OF LIVERPOOL.—A scheme for various town improvements has been brought under discussion in the Liverpool Council by Alderman Bennett, on the part of the Improvement Committee, whose proceedings it was desired to confirm. The improvements as explained are the following:—Hatton-garden, to make the width 12 yards, at a cost of 15,150*l.* A street from the bottom of Shaw's-brow to the top of Manchester-street, including improvement in Shaw's-brow, and works connected therewith: these, with the works, the bridge, and all connected with it, would cost 90,600*l.* Hardman-street, to make it same width from top to bottom, cost 1,500*l.* Widening Water-street, to carry it past down by the iron warehouse at the same width as opposite City of Dublin Steam-packet Company's offices, cost 7,250*l.*—making total cost 114,500*l.* The proposer spoke of proceeding to parliament for powers to borrow that sum, the annual interest of which, at 6 per cent. would be 6,800*l.* This, he said, would be but the beginning of a grand scheme of improvement to be brought before the Council next session but one.

TENDERS

For two detached villas, fences, and gates, for Philip Lewis, at Leyton, Essex. Mr. William Reddall, architect.

Ashby and Sons	£2,571 0 0
Kiddle	2,356 5 0
Scott and Cornwall	2,345 0 0

TO CORRESPONDENTS.

"W. W." (the appellation "deal"—from *delan* (Saxon), to divide—is applied exclusively to the wood of the *fir* tree, of which what is called *pine* in ordinary business, is but one variety). "Tudor Architecture." "H. G." "J. G." (not knowing the circumstances, we cannot usefully interfere). "W. N." "J. J. L." (see list of subjects issued by the Society of Arts, Adelphi). "J. J." "An Old Subscriber." Hereford. "Constant Reader." Bermondsey. "S." "Critical Jeames." "C. P." "R. I. S." (is not quite correct as to Ruinous Buildings). "Sub," Southampton. "J. M." "C. B. A." "T. S." "E. W."

"*Books and Addresses.*"—We have not time to point out books or find addresses.